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General Articles

OBSERVATIONS ON A FEW EQUINE AND CANINE DISEASES*

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During recent years the veterinary press has been well supplied with papers delivered at meetings of divisions, and also at our annual conferences.

The subjects have been so many and varied in character that it is rather difficult to provide a paper which does not encroach on ground recently covered or on some colleague's work. To-day, therefore, I intend to give you a mixed grill of subjects which are not as yet entirely clear cut and so are suitable for, or indeed invite, discussion. In an endeavour to suit all tastes I have chosen four conditions, two of which are associated with the horse and two with the dog.

Calculi of the Urinary System of the Dog

Urinary calculi form a most interesting subject for debate. They are undoubtedly becoming more common. This is especially so in certain areas. When I was in practice in East London and Essex, I rarely came across a case of stone in the dog, in spite of the fact that the practice was one which had always a considerable quota of canine work. I could easily count on the fingers of one hand the cases with which I met. The Royal Veterinary College is, as you know, in North London, and at that institution the reverse is the case. My colleagues and I are continually seeing cases of this condition. The water supply is often blamed as a cause of stone and some districts are as renowned for stone as Derbyshire is for goitre, or Glasgow for rickets. In the circumstances mentioned above this feature does not apply, for the water supply is derived from the same source. Some other factor must be at work. It may be diet, yet we know that the average diet of a dog varies little, no matter in what district he is kept. Stone as a rule occurs in the one dog owner's animal. It is rather rare to meet it in a big kennel, Pekingese kennels excepted. In spite of a considerable experience of greyhounds, I have yet to meet with a case in this type of dog. One would expect the trouble to be common in these animals for affections of the urinary system in them are by no means rare. Urinary diseases in the greyhound are due, in my opinion, to two causes —(1) a highly nitrogenous diet, and (2) lack of the mechanical benefits of flushing, due to an almost complete absence of water from their diet.

In general, the anatomy of the dog's urinary system resembles that of man. Its diet is somewhat similar, or at any rate the mechanism of digestion is almost identical. Until recent times it might be said that the physiology of digestion as detailed in text-books on the human was largely that of the dog.

In man and dog urinary calculi are by no means rare. They may be found in any part of the system. In man, however, the upper parts of the system—kidneys, ureters and bladder—are the most common sites. It is rare to find a urethral calculus. In the dog the reverse is the case, and it is rare to find a renal or ureteral calculus. In man the migratory theory of migration from kidneys is the most popular one, whether the concretions be simple depositions or are metabolic in origin. In the dog this cannot be so on account of the rarity with which renal calculi are found on *post-mortem* examination, and by the absence of symptoms indicating their presence in the upper part of the system.

I believe that the chemical compositions of concretions in both species are somewhat similar.

In canine surgery I know of no major operation in which a greater percentage of success follows surgical measures for the removal of calculi.

In spite of this fact, I am often sceptical as to whether it is worth while interfering; especially is this so in the bitch. I can quote many cases in which, following successful removal of cystic calculi, recurrence has taken place. Sometimes recurrence has been so rapid as to confound one. In one spaniel bitch, a large stone was removed from the bladder. The operation presented no difficulties, yet within a month a new stone almost as large as its predecessor was present in the bladder.

In my experience it is the smooth stones which are likely to recur, the mulberry type seldom causing this trouble.

I am of the opinion that recurrence is less frequent in the male, particularly in cases of urethral calculi.

In the dog the bladder may be almost completely in the abdomen. It has a very good

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covering of peritoneum, yet in our repair of this viscus we have no need to inturn the edges of the wound as we do in the repair of other hollow, serous-covered abdominal organs: simple sutures such as one would employ in repair of skin are quite sufficient. In fact, I will go so far as to say that, except in a very distended or thin-walled bladder, sutures of the bowel type are a disadvantage.

In the case of urethral calculi in the male, how often do we meet with stricture following surgical measures? Stricture must be very rare, yet conditions which are supposed to provoke it are common. Our surgery is often crude, much damage is done and suppuration in some degree is almost always present. Many count it to be bad practice to suture a male urethra and in this I agree in the majority of instances. Although cystic calculi are generally removed *via* the abdomen, I am of the opinion that in the bitch, if the calculi are on the small side, an effort should be made to extract them *via* the urethra.

The bitch's urethra is relatively short, it is easy of access and it can be considerably dilated. I think that if we perfected this method of removal, recurrence would be less frequent. I will quote an example. A Cairn bitch came under the care of my colleague, Mr. Formston, and myself. We operated upon the bladder four times. Recurrence followed on each occasion and all four operations took place within a period of twelve months. After the fourth operation I decided that no good purpose could be served by again operating *via* the abdomen, and it was decided to attempt removal *via* the urethra. The stone was large and it was necessary to break it down. This was effected by the aid of strong sinus forceps. Some of the pieces were removed by the forceps, others by flushing. Treatment was spread over a period of 14 days. The operation took place last April, and on January 29th I heard from the owner, who said that there was no sign of the old trouble and that the dog was very well.

This may be an isolated case, but does it not make one think that it may be best to remove calculi in this way?

The diagnosis of calculi is not always easy. The patients are often brought to us when retention is acute. It is remarkable that an accompanying cystitis is not a more common complication. Cystitis is most common in the female, possibly owing to the short urethra and the ease of ascending infection.

I find that the first signs of cystic calculi are that the animal is inclined to stretch itself unduly and to rest upon the belly. Occasionally it arranges the hind quarters at a higher level and sometimes the subjects of this condition will lie on their backs. Frequency is present and if the stone is large, retention with overflow, *i.e.*, dribbling. If the stone should be rough, a little blood may be seen after urination. In the male a condition of anurea is a common feature, due to blockage of the urethra. In diagnosis of urethral calculi, I place great faith upon the use of the stethoscope. One can distinctly hear a sound tapping against a stone, if the stethoscope is placed over the suspected site. If fortune favours us the operation for urethral calculus is one of the simplest, but it can be one of the most trying if we miss our line or if we get hæmorrhage. I now make use of forceps, which I place in position before operating. They retain all tissues in constant relationship and alignment and they control hæmorrhage. If I suspect that there has been impairment of renal function by back pressure previous to operation, I never use morphia. I know of no more certain cause of death than a combination of morphia and uræmia. As a lubricant and antiseptic in urinary cases, I recommend glycerine. As preventatives of recurrence, Lithia, Vichy, or Contrexeville water is sometimes of use, and I have reason to believe that I have been helped by the inclusion of fats, *i.e.*, butter and olive oil, in the diet, as was originally recommended by McCarrison.

Glaucoma

Glaucoma may be defined as an increase in the aqueous humour content of the eye, leading to a considerable increase in the intra-ocular tension.

It is frequently seen in the dog. It is often associated with systemic disturbance, but quite often it appears to have no connection with any other state.

It occurs in a bilateral or unilateral form. In my experience the bilateral form is the more common. There are two canine diseases with which it is particularly associated, *i.e.*, distemper and nephritis. It follows distemper, but it appears concurrently with nephritis. In the absence of other causes, I think that it may be taken as a symptom of nephritis.

The first signs of glaucoma are those of defects in vision, principally those of accommodation. The attention of the owner is drawn to the fact that the dog bumps into objects for no apparent reason.

If the eye is now examined, on a casual inspection there may be little to be seen. It is probable that no increase in tension can be detected. It will be noticed, however, that the cornea, when viewed from the side, tends to bulge slightly in its centre like that of the ox. The pupil will be dilated and the iris somewhat indifferent to light reflex. Viewed from the front, the eyes take on a glassy appearance, due to the wide pupillary opening and to the fact that the tapetum lucidum can be easily seen. In the later stages, increase in tension is easily recognised; the entire eye becomes enlarged and symmetrically round, and the pupillary

reflex is completely lost. The palpebral orifice is never closed, and the eye gives one the impression that it is too large for the orbit.

In this state accommodation is completely lost and all the sight that remains is that of peripheral vision.

Owing to the widened pupil and the great increase in pressure, malpositions of the lens are frequent complications.

Rupture of the lenticular capsule, stretching of the suspensory ligament and dislocation of the lens are frequent occurrences.

The phenomenon of a rocking lens may be seen, particularly so if the animal's head be agitated.

An examination of the fundus of the eye is interesting. Papilloedema, engorgement of the vessels, and a choroiditis are generally to be observed. Quite frequently there are hæmorrhages and occasionally detachment of the retina. Untreated glaucoma is a progressive condition. When tension becomes excessive. pain is always present. Blindness is the end result, due to atrophic or degenerative changes in the retina, which is literally the collective end organ of the optic nerve.

What are the causes of glaucoma? Glaucoma might justly be called the ascites of the eye. Ascites or anasarca in any part is the natural result of a disturbance of the equilibrium of the inflow and drainage of the fluid content of the area involved. This interference generally takes the form of some obstruction in the drainage system. It may follow an increase in the inflow, which is not compensated by a corresponding increase in the outflow. The aqueous humour is a fluid which normally varies little in quantity. It is, however, subject to constant change. In character it is watery and it contains inorganic salts, principally sodium chloride and a little protein. It originates by a filtration process from the capillaries in the ciliary processes. The quantity secreted depends upon two factors: (1) the arterial pressure, and (2) the intra-ocular pressure.

In certain renal affections the arterial pressure is considerably raised, hence the association of glaucoma and nephritis. The effect of a diminution of the intra-ocular pressure upon the secretion of aqueous humour is demonstrated after surgical puncture of the eye. The intra-ocular pressure immediately falls, owing to loss of fluid, yet in a few hours a normal quantity of humour is restored.

Drainage of aqueous humour takes place through the spaces of Fontana, and so into the canal of Schlemn. This canal is situated at the corneal-sclerotic junction, a part of which is often called the filtration angle by clinicians. It can also be drained away *via* the lymphatics, which are situated between the choroid and sclerotic coats. By some it is thought that absorption can take place *via* the venous system.

Although the original exciting cause may most probably be on the secretion side, the secondary and most serious effects are due to obstruction of the drainage system. Once glaucoma has originated, intra-ocular pressure rapidly increases and the spaces of Fontana are squeezed and their calibre obliterated.

In treatment our first efforts should be made with the view of speedily reducing pressure. I know of no better way way of attaining this end than by simple puncture at the corneal-sclerotic junction. The operation is simplicity itself, and it is unlikely to have complications if reasonable asepsis is practised. It should, of course, be performed under anæsthesia, preferably by the aid of morphia and local anæsthetic. It is significant that the iris almost immediately contracts and the pupil becomes small.

The immediate symptoms being relieved, a search should be made for a cause. Local trauma should not be neglected. Generally our search must be made for some cause of hyperpiesis and the kidney, the heart, and chronic cough are potent causes. If the kidney is the culprit, an examination of the fundus is helpful.

Treatment should now be applied, and this should be local and general, the latter to deal with whatever associated general condition has been discovered.

The eye must not be neglected. At the time of puncture the iris becomes active and by the use of atropine and eserine, we can keep it in a state of activity. I have found that medicinally small doses of mercury or arsenic are very useful, especially so if the cornea has been damaged. I place great faith in the use locally of a 1 in 5,000 solution of perchloride of mercury. It is a potent antiseptic and by its astringent action in the eyeball it helps to re-establish drainage.

Do not be afraid of puncturing on subsequent occasions if pressure warrants this operation.

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Strangles

In my remarks on equine conditions, I will confine myself to our two old friends—strangles and navicular disease. Although as the poles apart, the clinical conception of both these conditions has, in my opinion, changed completely since I was first initiated into things veterinary. This change of type or character is my excuse for introducing them to your notice.

Taking Strangles first. My first memories of this disease were that it was one practically confined to young or newly introduced horses. It was characterised by primary severe throat symptoms, culminating in the formation of a large intermaxillary abscess. The course of the acute stage of the disease was at the most a few days. We looked for the abscess and opened it as soon as possible. Pus poured forth and in the

majority of cases we could say that the worst was over. Metastatic trouble did occur on occasion, but it was by no means common. There were many who followed the Irish dealers' treatment and turned their strangles horses out to grass, no matter how severe was the attack. Although I never had the courage to adopt this Spartan treatment, I have been assured that the results were just as good as those which followed any other line of treatment.

How often do we see the good old abscess nowadays? In my experience it is rare. We still meet with the disease, but it seems to have changed entirely in type and its complications are much more to be feared. The common type met with now commences with an intense diffuse pharyngitis. Swelling is associated more with the inside of the throat than with the glands. On several occasions recently I have known the swelling to be so severe as to cause intense respiratory distress. In one hunter which came under my care so great was the swelling that the fauces would only with difficulty admit of one finger. Signs of septicæmia are common and these range from an acute condition simulating pink eye to a simple catarrhal fever. During this winter there has been a considerable epidemic amongst horses in London, which in some cases simulated influenza, in others pink eye, and in others simple septic sore throat. Systemic effects in all varieties were marked. I saw all varieties in one stable. In no case did I see a good old-fashioned submaxillary abscess. In all cases there were very few premonitory symptoms. Most of the cases worked well during the day, they were stabled at night and appeared to be all right. The next morning attention was drawn to them for they refused their food or portions of their food. When temperatures were taken, they were surprisingly high, 105°-107°. Chest complications were common, and in all those showing these symptoms there were signs of œdema and pleural exudate. Mortality fortunately was small, but recovery was slow. Some cases took as long as six to eight weeks to recover fully. The most successful line of treatment was good nursing and the free use of mustard. I consider that mustard is one of the few essentials to veterinary practice. It was found to be best to avoid oral medication. Great reliance was placed upon hypodermic injections of strychnine. One of my friends who has charge of a very large stud reports good results following the use of a vaccine, and further considers that to some extent he was able to control its spread. If a vaccinated horse did become infected, the severity and duration of the disease were favourably modified.

In man changes in the virulence of the specific fevers are well known. Scarlet fever and even smallpox have gradually lost a great deal of their virulence, and compared with their potency at the end of last century they are almost tame. Specific diseases tend to lose virulence not by any change in the causal agent, but by an increase in the defences of the attacked organism. This condition of affairs may go on until the disease in question may be almost extinct, for, without a fertile soil, propagation is at a disadvantage. The next stage is that the animal body attains a state of inertia against a certain specific infective agent. If the defences of the body are not stimulated, they literally become pacifist or somnolent. One might call this stage a negative one. If now the original infective agent attacks, defences crumble and epidemics spread like wildfire. The history of most specific diseases would show a chart of incidence which was wavelike in character: high points alternating with low points and a gradual transition in between. In some cases a wave will represent a century of time. We assume credit for a gradual reduction in the incidence of tuberculosis, but we should not take all the credit to ourselves, for the graph of tuberculosis has been on the down grade for a long time and it is reasonable to expect that in the future it will take an upward turn in spite of all our efforts.

This alteration in virulence and in immunity may explain the changes in the character of the disease strangles. The more modern forms may indicate a rise in virulence with a corresponding lessening of immunity. Previously defensive processes could in most cases localise the infection to the throat and submaxillary gland regions, and now, owing to rise in virulence, or fall in immunity, effects produced are changed in character and they are more widespread.

Navicular Disease

This is another disease which seems to have undergone change. The foot of the modern "navicular" horse is not the old-fashioned blocky or mule foot. It is a wide saucer-shaped, thin-soled, thin-heeled foot. Gone are the extreme vaulting of the sole, the atrophy of the frog and the narrowing of the heel.

I believe also that navicular disease has nowadays a greater percentage incidence. We may not see so many cases, for the number of horses is much reduced. However, more and more of the lame light or riding horses which are brought to us for examination are lame in the foot, and an alarming number of these are lame because of navicular trouble.

It may be that modern opinion on such things as cruelty causes these cases to be brought to our notice earlier than was previously the case. Most of us can remember the cabby who had to walk his horse away literally to unstick his feet and that some little time elapsed before he could change into the top gear of a trot.

I am of the opinion that the old-fashioned navicular foot was the end result of nature's efforts to alleviate the symptoms. If we take

stock of the position of the navicular bone in the foot and also of the lesions on that bone, two things are very evident: (1) any pressure on the frog or the posterior part of the sole and bar may be directly transmitted on to the navicular bone, joint or sheath; (2) the reasonable way to avoid this is to put the sole and frog out of action, or as much out of contact with the ground as possible.

If we want to limit pain and lameness we must limit pressure on the part; there is only one reasonable way of doing this and that is to increase the weight-bearing function of the wall. You all know that navicular lameness can be alleviated by shoeing on this principle, by using a very thin webbed shoe which gradually rises to the heel, *i.e.*, a wedge heel and quarter. Now is this not what nature tries to do when the foot assumes the so-called typical text-book shape? The sole becomes vaulted, the frog atrophies, the wall extends in depth, and the heel becomes correspondingly deep. The frog atrophies due to inactivity and following on this the heel narrows and becomes rigid. Expansion of the heel is thereby limited and pressure on the navicular region is reduced.

This is my theory of the so-called navicular foot, and I explain the modern foot by the fact that attention is sooner directed to lameness. It is reasonable to suppose that the thin sole, the wide heel and the exposed frog permit of more damage by concussion or accidental trauma than does the so-called navicular foot. The exposed solar aspect of the foot also explains to some extent the suddenness of the onset of the trouble, for it admits of—in fact invites—injury.

This brings me to the end of my remarks. I hope that I have been able to interest you and that you will not be adverse to criticising me, my paper, or my theories.

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Discussion

[Mr. Frank Chambers was to have opened the discussion in person, but was prevented by indisposition from being present. He had forwarded the speech he had prepared for the occasion and it was read by the Honorary Secretary.]

Mr. Frank Chambers: In this district calculi in the dog are very prevalent. Practically every breed of dog is subject to them, including greyhounds. I have operated on several greyhounds for urethral calculi. These greyhounds at the track with which I am associated have an unlimited amount of water always available for them to drink. The old idea that these dogs do not require water for drinking apparently spread from the old-fashioned and out-of-date greyhound trainer to those of the younger school, but after some difficulty I managed to get this ridiculous idea abandoned. At the same time I pressed for the alteration of kennels that had been made "according to plan," and eventually had runs made in front of every kennel. After this was done specific hysteria, which had been more or less always present, completely disappeared.

I have no concrete proof, but I am of the opinion that the great majority of calculi form in the bladder and not in the kidney, and I think that this theory might easily be applied to the formation of vesicular calculi in man, for the passage of a calculus from the kidney to the bladder causes pain so intense as to be paralysing in its severity and such cases are not frequently seen. Calculi do occur after removal from the bladder, but should not if adequate steps are taken to prevent recurrence, such as the thorough cleansing of the mucous membrane of the bladder after the removal of the stone, the provision of boiled or, better still, erytherium-activated water to drink and the feeding of a diet not devoid of fat. McCarrison has shown that in India, calculi are much more common amongst those tribes whose diet does not contain much butter or fat and his experiments proved this observation. I think that this factor comes into play when we are considering the causation of calculi. There are many kennels where the main article of diet is raw meat with every bit of fat most carefully removed. Pekingese in kennels are usually fed like this and the result is calculi in abundance. This does not happen when one Peke is kept if the owner has sufficient common sense not to take any notice of the parting words of the breeder as regards the feeding of the "wee pet."

I agree with Professor McCunn that the operation of cystotomy is easy in the bitch and should give a 100 per cent. result, but it is not so easy in the male. If the incision is made in front of the prepuce it is usually far forward and the bladder is not easy to handle. If the incision is at the side of the prepuce then there is danger from injury to the vessels that occupy that region. Further, a bitch can be kept well "bandaged" up after the operation and healing by first intention be expected, but in the male one cannot bandage and healing by first intention is the exception rather than the rule. I am surprised that Professor McCunn advocates the suturing of the bladder with an ordinary type of suture and not by the Lembert type, and I should like to hear more from him on this very important detail. Why not use Lembert sutures when you know that by this method of suturing you are taking every possible precaution to prevent leakage from the bladder into the peritoneal cavity?

Glaucoma.—This is quite a common condition in the dog and the cause is a complete mystery

to me. It does occasionally follow an attack of distemper, but this type is more of an ophthalmia where practically every structure of the eye is involved. The cornea becomes opaque and this condition is known amongst "doggy" people as the "large white eye." The ordinary distemper eye is only a simple keratitis and usually clears up in a few days with simple treatment. I cannot subscribe to nephritis being blamed for the causation of glaucoma in the dog, even if it is so in man. The greater proportion of cases of glaucoma that I see are in fat females and one seldom if ever sees nephritis, either acute parenchymatous or chronic interstitial, in the bitch. I have tried all the various methods of treatment as advocated in veterinary and human surgical manuals without much success.

Strangles.—Here I can agree with Professor McCunn. We have had a lot of sickness this winter amongst the larger studs and at present I have 28 horses isolated in one stud with catarrhal fever, but only one has developed a submaxillary abscess. Pus from this abscess revealed *Streptococcus equi* in pure culture. The change in character of the disease may be due to the fact that the causal organism does not get the chance nowadays of such frequent excursions into the animal body, with the result that there must be a diminished virulence. Sore throats, without abscess formation (the catarrhal fever of the War) are the rule rather than the exception to-day. In one outbreak during December, 1933, the disease started as a catarrhal fever and eventually the organism became more exalted, so that the later cases developed all the typical symptoms of the old-fashioned strangles case. Another factor may be that practically all the affected horses were from six to nine years old, and being older are more able to throw off the infection before the submaxillary gland is infected and destroyed. In the old days practically every young horse which came into a stud contracted strangles, probably from one of the watering troughs used on his journey. Watering troughs, that is the public ones, were responsible for the death of many a good horse from strangles and glanders.

Navicular Disease.—In *The Veterinary Record* for last week (issue of March 10th), you have all read an excellent paper on "The Diagnosis of Navicular Disease," by Major Pryer. There is nothing new in it, but I think it endorses what we all believe. Professor McCunn also lays great stress on the vulnerability of the wide foot with the weak heel. I have seen navicular disease appear in every kind of foot. Diagnosis at the very onset may present difficulty and one is reluctant to pass what amounts to the death sentence on a very good hunter at the first, second or even third examination.

The first symptom of navicular disease is the altered gait with occasional stumbling at exercise. The horse, if a hunter, does not like the camber at the side of the road but always attempts to get on the crown where the going is level. This I have noticed on several occasions where hunters of my own have developed navicular. Excessive frog pressure must accentuate the symptoms of foot pain and, as Professor McCunn states, the removal of the frog from the ground surface does make things easier for the affected horse. Personally I consider that the alteration in the shape of the affected foot is caused by the lack of pressure which the animal puts on it once there is pain present, either when working or resting. He saves his foot as much as possible, with the result that there is not the usual pressure to widen it out and the foot eventually becomes blocky. I should like to know if Professor McCunn has had any experience with the blocking of the plantar nerves with alcohol. I have tried it on two cases without any result: maybe my technique was at fault.

I should like to express by appreciation of your action in allowing me to open the discussion and to thank Professor McCunn for his original and very interesting paper.

Mr. W. F. Aston followed in critical mood, and challenged Professor McCunn's opinion with regard to glaucoma. He did not find that it responded to treatment. Nor could he subscribe to his statement about strangles. He (Mr. Aston) could point to plenty of cases of ordinary strangles and he got quite as many as before the War. Every second year there seemed to be an outbreak of strangles and in the year between there was an attack of influenza, and sometimes, as this year, they had both strangles and influenza. As to navicular disease, far fewer hunters suffered from it than the ordinary half-legged town horse, which was to be explained, he thought, by the character of the foot. It was rarer still to get navicular trouble in the thoroughbred. Every veterinary surgeon encountered some form of lameness, and until they had better means of diagnosis, say with the X-ray, there would always be an argument as to whether it was navicular disease or some other source of trouble.

Colonel T. Marriott said he would like to know the pathological effect of rubber on horn. He thought much depended on the manner of shoeing, so as to throw the weight on that part of the foot best able to withstand it.

Mr. Martin said he had seen glaucoma in young horses. With regard to navicular disease, he had never seen a case benefit by putting on a special shoe. His treatment was to rasp the side of the wall well, groove the wall, and lower the heels. Many weight-carrying hunters developed the disease, and if grooved properly and the horse given a rest the trouble would disappear and the animal be fit for hunting the following season. There was, however, not so much navicular disease as there used to be. In many cases of lameness, if they could get an elastic frog it would relieve pain. Referring to strangles, he said he had to deal with 67 pit ponies and could not get strangles out of the pit. He inoculated them with serum, repeating the operation two days later and he obtained wonderful results. By this means he avoided those debilitating effects that he used to get, although the trouble ran its course.

Mr. Steele Bodger said he would have liked to

hear a little more about the suturing of bladder wounds, and also about the types of calculi. Professor McCunn had said that the mulberry type did not tend to recur, but he (Mr. Steele Bodger) remembered removing mulberry calculi, and some months later he removed a good many smooth calculi from the same bitch. As for strangles, he had had no cases of the old type in his practice during the last three years. He had had influenza, but not the old-fashioned strangles. With regard to navicular disease, he was not too certain that his diagnosis was always correct. At the same time, in such cases as he had treated he found that rasping the side of the wall did give relief.

Mr. O. V. Gunning said he understood Professor McCunn to say that one cause of calculi was the lack of flushing. But when the water was very hard, was not excessive flushing likely to be harmful? He was surprised to hear him recommend morphia in operations for calculi. He endorsed Mr. Martin's view about opening the foot in a case of navicular disease. At the same time, it behoved them to be very careful, because they were not all of them too certain in their diagnosis. Contracted heels and pressure had a lot to do with the trouble.

Mr. R. L. Phillips, referring to strangles being sometimes of a different type, wondered if that other type was comparable with equine pleuro-pneumonia which swept over the country a few years ago.

Mr. H. W. Dawes said he would like to express his thanks to Professor McCunn for his kindness in giving them such an excellent paper and one so provocative of a good discussion. He desired to ask Professor McCunn if he could give any explanation of the frequency of vesical calculus in the female Pekingese. With regard to the question of strangles, one did not nowadays see so much of the typical *Streptococcus equi* infection. Abscess formation occurred sometimes in the course of what he termed "town fever," but he thought the term strangles, as applied to this condition, was not quite correct. This winter they had had an extraordinary amount of this catarrhal or town fever. The initial outbreak arose before Christmas and apparently cleared up to be followed by another wave in February, and cases were still being found. Nearly every new horse coming into town developed the condition and in his opinion this outbreak was characterised by three points: firstly, the persistence of a high temperature over a long period; secondly, the intense depression of the affected animals, and thirdly, the difficulty of getting one's horses fit again and into their work. The last point was no doubt connected with the first and cases were frequently off work for six to seven weeks. In dealing with such outbreaks the clinical thermometer was the only reliable guide in the early recognition of the disease. Horses showing an increase of temperature should be taken off work at once if a long and debilitating illness was to be avoided. He also made a practice this winter of giving all newly-purchased horses a dose of vaccine within 48 hours of coming into town and a second dose was given five days later, even if the horse was in light work and apparently doing well. In town practice the use of public watering should be deprecated and notices warning against the use of such troughs should be put up in each stable during the prevalence of this disease. He was convinced that the use of a vaccine on all newly-purchased horses was of great value.

As regards navicular disease in commercial horses, the greatest contributing cause was a weak heel. The old idea of the typical navicular foot was somewhat upset to-day, as one frequently met with the condition in commercial horses with apparently a good open foot but one having no depth at the heel. Such feet when viewed from the front appeared excellent on first sight, but no foot with a weak heel would stand prolonged work on the streets. The most important foot factor in a commercial horse was the possession of a deep wide heel. Excessive lowering of the heel during the preparation of the foot for shoeing should be deprecated as tending to expose the navicular area to greater damage from concussion.

The Reply

Professor McCunn, replying to the discussion, said he welcomed the criticism levelled against him, for it showed interest. He was surprised to hear Mr. Chambers' experience that greyhounds in his district suffered very much from stone. It had been a source of wonderment to him that greyhounds had urinary trouble. He had seen one take ten minutes to urinate, and then only in tiny spurts. He believed the great amount of massaging in which trainers indulged had something to do with this, by affecting the bladder walls in some way. Referring to bladder trouble, he described his own method of operating, and of suturing. With reference to public water troughs, he endorsed all that had been said as to the danger of using them. They were a fruitful source of infection. Mr. Aston had given it as his opinion that glaucoma did not respond to treatment, and probably the reason was that he did not get his dogs till the trouble had become more or less chronic. If he got them early, he could act quickly. Quite often a puncture of the eye would give good results, but if the trouble was well established one could puncture and do no good. As to confusing strangles with influenza, he would like to ask Mr. Aston to define influenza. It was a term which allowed a good deal of latitude, and in a doubtful diagnosis it was sometimes the refuge of the destitute. "I confess to using it in that sense myself sometimes," added Professor McCunn.

Mr. Aston, he continued, had said navicular disease was rarely, if ever, seen in the thoroughbred and the reason was that breeders had tried to produce horses with nice little feet, and not the big feet which breeders of Clydesdales and Shires appeared to cultivate. He could not answer Colonel Marriott's question as to the pathological effect of rubber on horn. He never liked shoeing horses with pads. The farrier who could not shoe a horse and make it go level without pads had better shut up his shop, although in town practice they might be useful to prevent slipping. Answering Mr. Phillips, Professor McCunn said the form of strangles to which he had referred might be like pleuro-pneumonia. He could not tell Mr. Dawes why calculi were seen most in the female Peke, unless it had anything to do with the diet and general up-bringing. He agreed with Mr. Dawes as to the value of the clinical thermometer, but the difficulty was to get people who would use it intelligently. If they had a big kennel, they could nip distemper in the bud by taking the temperatures properly. A dog might appear to be quite well and even win races, yet if its temperature were taken it might be found to be high. Lack of attention at that stage often led to serious results.

EDINBURGH*

I built my house upon a hill, and in an upper corner of it I contrived a little room which it pleases me to call my study. In the northern gable I cut a lattice, mullioned and plain glazed it that I might look out upon the town.

The garden gate opens upon the steep hill road, and down and up the brae there used to travel on a pony one Walter Scott. Just here, or hereabout, so the story goes, the pony was often halted the while the Wizard might view the city that, perched upon her hills, yet lay below him. I like to think this may have been so, and that it was because of it he hereabout stood Marmion:

"Still on the spot Lord Marmion stayed,
For fairer scene he ne'er surveyed. . . .
The wandering eye could o'er it go,
And mark the distant city glow
With gloomy splendour red. . . .
Such dusky grandeur clothed the height,
Where the huge castle holds its state,
And all the steep slope down,
Whose ridgy back heaves to the sky,
Piled deep and massy, close and high,
Mine own romantic town!"

Edinburgh is a city serene and beautiful. She is a city of learning and of culture, but, above everything, she is a city of romance.

Up and down that Royal Mile of her causewayed High Street, with its Palace at the foot and its Fortress at the top of it, there moved a phantasmagoria, a pageant of Scottish history. Kings and Queens were there, Abbot and Canon, Sandman and Fishwife, Prelate and Presbyter, Dame and Knight, Carrier and Caddie, Burgess and Statesman, Gentle and Semple folk, a seething, motley clamjamphrie (for no other word can better describe the press), all cooped and bejostled together upon a single narrow ridge in a kind of amiably quarrelsome intimacy, for a space of seven hundred years.

Up and down, in and out, this Street went Malcolm and David and the Bruce, to be followed by the Royal Stuarts. Down this Street there rode that gay gallant, our fourth James, with his bride, Margaret of England, to meet the brave and gladsome welcome of his people. Soon he rode up the Street—to Flodden, followed by the fearful, yet brave, farewells of these people—or what remained of them. So soon again there rode up the Street to woe and lamentation the lone Randolf Murray!

To this Street came Mary, at last to take her place truly as Queen of Scots, at Holyrood. There she was welcomed with musik and merriemaking, with fiddles and little rebecs and with fyres of joy. But quickly enough she was a "monster of evil," and had need to seek refuge from the fury of her detesting subjects.

At the top of the Street was born James the Sixth and First; him in whose person were the Crowns united. At the bottom was bred his son, Charles, and here, in Holyrood, his head received the Crown. Ah, that he should so soon have lost both! Thereupon up and down the Street clanged Cromwell and his Ironsides, and the Street knew its Kings and Queens no more—Aye, but a Royal Prince came back to it, and in the '45 the white cockades were fluttering at the Cross for Charlie; up the Street broke the wild huzzahs from the Palace of his Royal Fathers, and down the Street roared the cannon balls from the Fortress that would have none of him.

But (to make a quip) the history of a country is not written in its blue blood so much as it is moulded in its grey matter. From the High Kirk in this Street, that of Sanct Geile, that "old-Hebrew Prophet in the guise of an Edinburgh Minister," John Knox, thundered against "Preastis, Frearis, Chanonis and rotten Papistis, and the whole monsterous Regiment of Women." Was it for a wonder that his Queen, cold and brave and proud Stuart that she was, at last brake doun and wept?

In that Kirk, an apple wife threw a stool at a Dean, and in the action began the remaking of the ideals of her nation. Cheek by jowl with the Kirk there stood the hated Tolbooth, the Heart of Midlothian, the Scottish Bastille, now, like that of Paris, no more. But its entrance is yet marked in the causeway with the device of a heart; the centre of it, this very day, is wet with the spit of all whose memories are long or in whom superstition lingers. Here, in this close was a portion of the National Covenant signed: that some of the quills dripped blood was not for want of ink! From that balcony Argyll watched his enemy Montrose, "a traitor to the Covenant," and tied in a tumbril, go up the Street to the headsman's block; but his triumph was not for long: a change of governments and he, "a traitor to the King," in like predicament, followed to the same place.

There, in that court, lived James Boswell, and up and down the Street he led—much as a man might lead a bear—the peching, contemptuous Samuel Johnson. In this court lodged a rude ploughman named Burns (sharing with another a room for which the worthy Mrs. Carfrae charged three shillings in the week). Yonder in that close he read the proofs of the first Edinburgh Edition of his poems. "This month," says Carlyle, "he is a ruined peasant, his wages seven pounds a year, and these gone from him; next month he is in the blaze of rank and beauty, handing down jewelled Duchesses to dinner; the cynosure of all eyes." There was born Robert

* Meeting place of Congress, N.V.M.A., July 30th—August 3rd, 1934.

EDINBURGH.

"The Scotsman"]

Fergusson, him whom Burns called "My elder brother in misfortune, and by far my elder brother in the Muses." Here in the Kirkyard on the Street his body lies, along with a goodly company; among them Professor Gregory, who, in a house across the way, compounded his famous "Mixture." There lived Munro *primus*, bred in the school of Boerhaave, and one of the founders of the Edinburgh Medical School. His son, Munro *secundus*, if an even greater anatomist, is best known to us by the name of a foramen and by the invention of the stomach tube for cattle. In this close Oliver Goldsmith (then a medical student) attended the dancing assemblies. In that other, there lived and died Adam Smith, whose *Wealth of Nations* made him "The Father of Political Economy." There was the shop, and here stands the house, of Allan Ramsay, wigmaker and barber, bookseller and poet, editor of the famous *Tea-Table Miscellany*, author of the *Gentle Shepherd*.

But, enough! Have I not said that at the top of the Street was born him who united the crowns? Well, here in a cellar (for fear of the mob that ranted above) were received signatures to the treaty that united the Nations. From these two happenings in the Street, the Street itself quickly changed from gentility to slumdom, for with the Wisest Fool in Christendom went the Court, with the Act of Union went the Statesmen, and with both Crown and Council went the fear of English invasion and sack. What needs then that the lieges should remain huddled and cribbed in these rookeries on the ridge? So, in time, they threw out broad bridges to the south and to the north, over the ravine of the Cowgate and the morass of the Nor' Loch, and there arose houses, commodious, builded finely of faced stone, set out in regular squares and streets; whereupon, the higher orders flowed, or overflowed, from the towering tenements of the Old Town into the mansions of the New.

The change was made slowly at first and not without caution, bred of suspicion and prejudice. "One old lady fancies she should be lost if she was to get into such a habitation; another, that she should be blown away in going over the new bridge; and a third lives in the old style, because she is sure that these new fashions can come to nae gude." But eventually none was left in the old High Street but the smaller burgesses, the craftsmen, the carriers and the caddies.

This time is epochal in the history of Edinburgh and, indeed, in that of Scotland, for, freed from the direful effects of religious and political strife, the mind of the people took a new bent, or, maybe, rather its natural bent was given opportunity to direct itself. The importance of a sound educational system had been emphatically preached by Knox and his fellow reformers, and the admiration for, and the pursuit of scholarship became something of a passion. The University was rebuilt; new chairs were created; academic conditions were so ordered that She could receive lads of parts from even the humblest households. The High School became world famous; the Arts were esteemed; Science advanced. The founding of the Royal Society of Edinburgh was but one of the several signs of the times. Indeed, it is true that Dutch Leyden now gave place to Scottish Edinburgh as the World's Centre of Medical Teaching.

Then the New Town became famous (and how could it help itself!) since it sheltered such as Jeffrey and Cockburn, Christopher North, Henry McKenzie (that blood-thirsty *Man of Feeling*), John Leyden, Dugald Stewart, De Quincey, Lockhart and, towering above and beyond them all, Walter Scott.

In Medicine there was John Barclay and Robert Knox (Yes, his name must be said, Burke and Hare or no). Such were the times that "unless there be a fortunate succession of bloody murders, not three subjects are dissected in the year." There was Joseph Black who discovered carbon dioxide, but who had modest doubts as to whether this was sufficient for a thesis to be presented for a Doctorate in Medicine; and there was Cullen and the Duncans, father and son, and Liston and Syme, "he who never wasted a word, nor a drop of ink, nor a drop of blood," and James Young Simpson, that erstwhile poverty-ridden country laddie (he was a Bathgate baker's bairn), so sensitive that he could not thole the screams of a woman that was held down upon a table while undergoing excision of the breast; he ran out of the theatre, with his hands on his lugs, but he returned with the resolve that he would set himself for the remainder of his life to discover how the pain incidental to surgery and to childbirth could be overcome. He resorted to the use of various drugs; he even experimented with the practice of hypnotism, until eventually he discovered the anæsthetic properties of chloroform. Yes, we can still show you that dining-room in Queen Street where the great discovery was made, and tell you, too, queer stories that sprang from the making of it; but here it will do to quote from the cash book he kept while a student:

> "Let not thy recreations be expensive, lest the pain of purchasing them exceed the pleasure thou hast in their enjoyment. Finnan haddies 2d.; Bones of the Leg £1 1s.; Subject £2; Spoon 6d.; Bread and Tart 1s. 8d.; *Duncan's Therapeutics* 9d.; Snuff 1½d.; and *Early Rising* 9½d."

"The snuff and the book on early rising," says his biographer, "show how anxious he was to 'sit late and rise betimes.'" This other quotation relates to a time many years after, when

> ". . . . To the outside world he seemed the

one Edinburgh figure of first importance. A citizen was presented at the Court of Denmark to the King of that country: 'You come from Edinburgh,' said His Majesty, 'Ah! Sir Simpson was of Edinburgh.'"

And here, at 9, Charlotte Square, lived Joseph Lister during his tenure of the Chair of Clinical Surgery in Edinburgh. He had then returned from Glasgow, where he had worked out his germ theory of suppuration and the application of his antiseptic treatment of wounds.

"His face at once benign and proud and shy.
If envy scout, if ignorance deny
His faultless patience, his unyielding will,
Beautiful gentleness and splendid skill,
Innumerable gratitudes reply."

Odd! that ane auld tounis College should have been so closely thirled to these two who, with their anæsthetic and antiseptic, have calmed and cleansed surgical procedure and made of it a blessing to man and his animals.

But to return to the old High Street, forsaken of its nobility and culture—what of it now? You can trace the remnants of the Royal Palace of a Queen Mother in the gable of that rotting slum. This emblazoned stone bore a noble crest, now crumbling in its decay; that legend incised deep on the ashlar is ill to read through the chalk scribblings. This stout burgess house where once were banqueted a King and Queen is beflagged with a family washing. Through that darksome entry there lived the greatest European philosopher of his time; and those that remain of the arcades along which swaggered the booted and spurred and rapiered bravoes can be seen through the window of a milk shop!

But if, at the end of the Eighteenth Century, its nobility and gentry had deserted the old Street, there still remained (as has been said) its craftsmen, and among these, at the foot of Chessell's Court in the South Back of the Canongait, was James Clark, "Hyrer of Coaches and Ferrier to His Majesty for Scotland."

This was an outstanding personality, a cultured man of rare powers of vision, whose first desire it was to foster the then but newly recognised Veterinary Science. He attacked, not violently, but restrainedly, and with reasoned argument, the pernicious practices of his day. He did nothing short of revolutionising Veterinary Hygiene; and of that science Frederick Smith calls him "The Father, not only in this country, but in Europe." He wrought, too, a far-reaching change in the principles of shoeing, although in this, the Scot's conceptions had been anticipated by those of that equally brilliant Frenchman, La Fosse. As early as 1788, at a time when no organised veterinary teaching existed in these Islands, he conceived a System of State Veterinary Schools. He protested that for them who would study the diseases of animals there was nothing but reading, and that "is not sufficient to qualify a man either for the profession of physician or farrier." He consistently worked for the establishment of a School in Edinburgh, and was all but successful when "the political situation rendered it impossible." (By this, maybe, he means the abrupt reaction to conservatism that was occasioned in this country by the development of revolution in France.) Well might we cry: "Confound their politics!" But, let that be! For here, even now, there comes bravely trudging towards the city a young blacksmith, John Dick, with his bride, Jean Anderson. They come from somewhere Aberdeen-awa, and doubtless to seek their fortune; but they come (that they could but know it!) to present to Veterinary Science one of her most brilliant exponents; for here they settled near the Palace, at the foot of the Street, and here in the historic court of the White Horse Inn in which John had his forge, their son, duly—nay, long over duly—baptised William, in the College Kirk, first saw the light. But why re-tell an already well told tale? Did not the boy grow up to stand with his father at the anvil, to help him with his horse doctoring, to be fired with the ambition of founding in Edinburgh a Scottish Veterinary School, which, after much struggle, he at long last did build, though the foundations of it (let us be mindful of this) had been cut by Clark near forty years before!

Unlike Clark, Dick stood forth as a private teacher independent of politics, and he was a shrewd and determined fighter. The State gave him no recognition. Well, what of it? He was backed with fifty pounds (pounds English sterling!) from the Highland Society. The Civil and Military authorities would not recognise his students. Good! He would see to it (and he saw to it) that they eventually did. He was a great clinician, but he was nothing if not a "practical man." In his wisdom he knew this, and he chose as his associates two among others, who, in their cast of mind and in their professional equipment, were his antitheses—and his natural complements.

John Barlow, that great gentleman, was his anatomist, physiologist and pathologist. He introduced the microscope to veterinary teaching in Britain; but this is merely indicative of the nature and stamp of Barlow, for he was imbued with true scientific ideals. His creed was that of the Society of Friends; his practice was the strict tenets of that creed. Withal, his was a warm and a very lovable personality. His death, so early, robbed our Science of a truly fine worker.

John Gamgee was the other, and what have I to say of him, that genius of terrific activity; far transcending even Dick in his intellectual talents, yet failing miserably beside him in the sick box! Temperamentally, they were dangerous incompatibles. They were as sulphur

and a chlorate, these two, and only needed contacting and rubbing up together to produce the inevitable explosion—rather explosions, for these continued throughout one year, and at the end of it had well-nigh shaken the Clyde Street School to its foundations; though the rival College which Gamgee established in the Lothian Road was, in itself, a poor enough thing.

These three, this wonderful triumvirate, Dick and Barlow and Gamgee, brought, as it were, providentially to the one place, each as an individual (but only as an individual) making a deep mark upon the Science! Had the Fates been kinder, had Death spared and Human Nature been but a thought more tolerant, what would not have been the outcome of their joint efforts could they have pulled together in the one harness!

Yet, that is but for an idle reverie. We can show you the disjaskit-looking house at No. 1 Pilrig Street, wherein John Barlow died, and the drab railway goods yard whereon stood John Gamgee's College, and you may look on these places, and, if you will, you may ponder and be sad! But, if you would see John Barlow, then see the splendid Spirit of Science that pervades our profession to-day, and see John Gamgee in the World's State Veterinary Services—aye, and be glad for their gifts to us.

And now, after over forty years continuous teaching, the veteran Dick is dead; but that awesome, yet lovable, old woman, his sister Mary, is very much alive, and from her eyrie across the Firth, in Craigennochie, closely watches the fortunes of his school. She welcomes to her brother's place William Williams, but six years later, with what feelings you may conceive, she sees him depart, and not alone. He marches out, with full forty students at his back, to found his New College at Gayfield House, while, loyal to the old School, there remain but nine. What would, then, have been the fate of the stricken Dick's College it were difficult to presage had not Williams been immediately followed by a fellow Yorkshireman, Thomas Walley, whose reign is remarkable for a certain quiet wisdom that begot the restoration of progress and peace.

Here we may well pause—but let us take just one more keek! There in that quiet garden off the thrang Gorgie Road, you may glimpse a Caroline mansion: it was the home of Finlay Dun.

To-day, Edinburgh is rightly known as a deeply traditioned veterinary centre. Her celebrated School continues to cast abroad the knowledge of that Science whose bournes her Research Institute struggles to enlarge.

. . . . . .

It was, maybe, for these (among some other) things that in my northern gable I cut a lattice, through which I might look out upon the town.

J. R. G.

Golf at Edinburgh.

V.V.B.F. Benefit Competitions

The competition for the Simpson Trophy will take place on Tuesday, July 31st, commencing at 2.30 p.m. This year there will be no divisional stage, and a Bogey Competition will be held. The competition will be played over the Bruntsfield Course, which is easy of access from Edinburgh. The Ladies' Competition will be played on the Liberton Club's Course, commencing at 10 a.m., on July 31st.

The following clubs have granted the courtesy of their course from July 30th to August 3rd :—

Gullane. Course No. 1. Green fee 5s.
Course No. 2. Green fee 3s.
Course No. 3. Green fee 2s. 6d.
Without the use of the clubhouse.

Longniddry Golf Club. Green fee 2s. 6d., with the use of clubhouse.

Luffness. Green fee 2s. 6d. with use of clubhouse.

Liberton. Green fee 2s. 6d.

Bruntsfield. To be introduced by card. Green fee 2s. 6d.

Ladies' Competition

(18 *Holes* v. *Bogey*)

Liberton Club. 10 a.m., July 31st.

Conditions.

(1) Entrance fee 2s. 6d.
(2) Must be off first tee by 4.30 p.m.
(3) Green fee 2s. 6d. per player.
(4) Not more than 24 players.
(5) Only one round allowed in the afternoon.

The winner of the competition will hold for one year the Dunkin Ladies' Challenge Cup, presented by Mrs. G. W. Dunkin, and there will be a prize for the runner-up.

Gentlemen's Competition

(18 *Holes* v. *Bogey*)

Bruntsfield Course.

(1) Entrance fee 5s.
(2) Green fee 3s.
(3) Off first tee by 4 p.m.

The winner of the competition will hold for one year the Simpson Trophy. presented by Lieut.-Colonel P. J. Simpson, and will also receive a silver medal, presented by Dr. O. C. Bradley. The runner-up will receive a silver spoon.

R. Simpson, *Hon. Secretary.*

The substitution of an unhealthy carcase for a certified whole one led to the first prosecution of its kind in Northern Ireland. James Barr, of Ballymena, was fined £20 for fraudulently using a Government certificate. On leaving the abattoir he included a diseased animal in his consignment, using the certificate issued for a healthy one which he abstracted.

National Veterinary Medical Association of Great Britain and Ireland

CONGRESS AT EDINBURGH—JULY 30TH TO AUGUST 3RD, 1934.

PROVISIONAL PROGRAMME

Monday,	July	30th,	*10 a.m.*—Opening of the Congress. (Royal [Dick] Veterinary College.)
Monday,	,,	30th,	*10.30 a.m.*—Opening of Exhibition of Surgical Instruments, Drugs, etc., by the President. (Royal [Dick] Veterinary College.)
Monday,	,,	30th,	*11 a.m.*—Paper: "White Scour and Allied Diseases in Calves."
Monday,	,,	30th,	*3 p.m.*—Demonstration at Moredun Institute.
Monday,	,,	30th,	*8.30-11 p.m.*—Civic Reception (Art School).
Tuesday,		31st,	*9.30 a.m.*—Tour to the Trossachs with Lunch at the Trossachs Hotel.
Tuesday,	,,	31st,	*10 a.m.*—Paper: "Anærobic Toxins of Intestinal Origin."
Tuesday	,,	31st,	*10 a.m.*—Ladies' Golf Competition for Mrs. Dunkin's Trophy (V.V.B.F.)
Tuesday,	,,	31st,	*11.45 a.m.*—Paper: "The Application of Biochemistry to Veterinary Practice and Research."
Tuesday,	,,	31st,	*2.30 p.m.*—V.V.B.F. (Simpson) Golf Trophy Final.
Tuesday,	,,	31st,	*8.30 p.m.*—Reception by President. (Freemasons' Hall.)
Wednesday,	Aug	1st,	*10 a.m.*—Paper: "The Eradication of Bovine Tuberculosis."
Wednesday,	,,	1st,	*12.45 p.m.*—Congress Photograph.
Wednesday,	,,	1st,	*afternoon.*—Tour to Linlithgow Palace and/or the Forth Bridge and Inchcolm (primarily for ladies).
Wednesday,	,,	1st,	*2.30 p.m.*—Council Meeting (Royal [Dick] Veterinary College).
Wednesday,	,,	1st,	*3 p.m.*—Annual General Meeting. (Royal [Dick] Veterinary College.)
Wednesday,	,,	1st,	*7 for 7.30.*—Annual Banquet. (Freemasons' Hall.)
Thursday,	,,	2nd,	*9.30 a.m.*—Demonstrations.
Thursday,	,,	2nd,	*10 a.m.*—Tour to the Borders, with Lunch at Dryburgh Hotel.
Thursday,	,,	2nd,	*2.30 p.m.*—Demonstrations and Operations.
Thursday,	,,	2nd,	*9 p.m.*—Dance in aid of the Funds of the Ladies' Benevolent Guild. (Freemasons' Hall.)
Friday,	,,	3rd,	*10 a.m.*—Paper: "Non-Parasitic Skin Diseases of Dogs."
Friday,	,,	3rd,	*11.30 a.m.*—Paper: "Distemper of the Cat." Conducted Visit to the "Royal Mile."
Friday,	,,	3rd,	*2.30 p.m.*—Closing Meeting (adjourned Annual General Meeting.)

SUBJECTS FOR PAPERS

VETERINARY MEDICINE AND SURGERY SECTION

(*President*: *Major A. Spreull*, D.S.O., T.D., M.R.C.V.S.)

(*Vice-President*: *Esmond Brown, Esq.*, M.R.C.V.S.)

(*Recording Secretary*: *J. S. A. Spreull, Esq.*, M.R.C.V.S.)

1.—"White Scour and Allied Diseases in Calves."
By R. McD. Smith, M.R.C.V.S., Galston.
Opener: Captain James Anderson, M.R.C.V.S., Keith.

2.—"Non-Parasitic Skin Diseases of Dogs."
By J. L. Cormack, M.R.C.V.S., Coventry.
Opener: J. W. H. Holmes, M.R.C.V.S., D.V.S.M., London.

3.—"Distemper of the Cat."
By Major T. Dalling, M.R.C.V.S., Beckenham.
Opener: J. Stewart, M.R.C.V.S., Croydon.

EXPERIMENTAL PATHOLOGY SECTION

(*President*: *Dr. J. Russell Greig*, M.R.C.V.S.)

(*Vice-President*: *Captain T. J. Bosworth*, B.Sc., M.R.C.V.S., D.V.S.M.)

(*Recording Secretary*: *D. R. Wilson, Esq.*, B.Sc., M.R.C.V.S., D.V.S.M.)

1.—"Anærobic Toxins of Intestinal Origin."
By W. S. Gordon, M.R.C.V.S., Edinburgh.
Opener: Professor S. H. Gaiger, F.R.C.V.S., Liverpool.

2.—"The Application of Biochemistry to Veterinary Practice and Research."
By Dr. H. Dryerre, M.R.C.S., L.R.C.P., Edinburgh.
Openers: W. Hepburn, F.R.C.V.S., Aberdeen, and Dr. W. R. Wooldridge, M.Sc., M.R.C.V.S., London.

PUBLIC HEALTH SECTION

(*President*: *Captain A. W. Noel Pillers*, F.R.C.V.S., D.V.S.M.)

(*Vice-President*: *Captain R. Simpson*, F.R.C.V.S., D.V.S.M.)

(*Recording Secretary*: *Walter Scott, Esq.*, F.R.C.V.S., D.V.S.M.)

1.—"Eradication of Bovine Tuberculosis."
By Major A. Douglas, M.R.C.V.S., D.V.S.M. (Vict.), Ayr.
Opener: G. P. Male, M.R.C.V.S., Reading.

HOTEL LIST

	From Per Day. £	s.	d.
Caledonian Hotel, Princes Street ...	1	7	0
North British Station Hotel, Waverley Station, Princes Street	1	1	0
Roxburgh Hotel, Charlotte Square ...	1	1	0
Royal British Hotel, 20, Princes Street	1	1	0
Braid Hills Hotel	1	1	0
Royal Hotel, 53, Princes Street	1	0	0
Peebles Hotel Hydro		19	0
George Hotel, 21, George Street		18	6
Grosvenor Hotel, 13-22, Grosvenor Street		18	6
Old Waverley Hotel, 43, Princes Street		16	0
The Barnton Hotel, Barnton, Midlothian		16	0
Queen Hotel, St. Colme Street, West End of Queen Street		15	0
Palace Hotel, 1, Castle Street		15	0
The Cockburn Hotel, 1, Cockburn Street		15	0
Abercromby Private Hotel, 32, Abercromby Place		15	0
The Manor Private Hotel, 56, Manor Place		13	6
Rutland Hotel, 2 & 3, Rutland Street (Only double rooms available) ...		12	6
The Imperial Hotel, 145, Leith Street ...		12	0

Balfour Hostel 7s. Bed and Breakfast, and 2s. 6d. for dinner if required.

Balfour Hostel is one of a group of Hostels in East Suffolk Road, belonging to the Edinburgh Association for the Provision of Hostels for Women Students. These Hostels are unusually good. Their buildings are modern and delightfully situated, and it is felt that members who do not desire to stay at an hotel will much prefer the hostel to any other type of accommodation. Balfour Hostel has been placed at the disposal of the Committee; fifty single rooms are available for either ladies or gentlemen from the evening of Saturday, July 28th till 10 a.m. on Saturday, August 4th. As a minimum of 34 persons is required so that the Hostel may be opened, will members attending the Congress who wish to avail themselves of this accommodation please notify the local Secretary as early as possible?

STOCK POISON PLANTS

F. N. Howes, writing in a recent number of the *Kew Bulletin*, states that in most of the important ranching and stock-raising regions the number of animals grazed per unit area is now considerably in excess of that which was customary a few decades ago. This has led to an increase in losses due to plant-poisoning. *Lotus arabicus* L. is poisonous when young, but is reputed to be an excellent fodder when it has matured and the seeds have formed. Other plants appear to develop toxic properties only when growing in certain areas. *Tribulus terrestris* L. causes a sheep disease in South Africa, but not in other parts of the world where it is a common weed. Some apparently harmless European species, such as *Stachys arvensis* L., *Malva parviflora* L., and *Lamium amplexicaule* L., which have become naturalised in Australia, there exhibit toxic properties. Cyanogenetic glycosides are responsible for the toxic character of many plants, such as *Sorghum halepense* Pers. and other *Sorghum* species; but saponins are also among undesirable constituents. Very curious is the effect of certain plants, such as *Hypericum perforatum* L., *Fagopyrum sagittatum* Gilib. and certain leguminous species, which are harmful only to animals with unpigmented skin, and then only when the animals are exposed to sufficiently intense sunlight.

The Veterinary Record

June 2nd, 1934.

THE CRITICISM OF SCIENTIFIC LITERATURE

It may fairly be claimed that the principles governing the criticism of scientific literature are well worth consideration.

Before going further it is convenient to define terms used.

Criticism is described as a detailed examination and review; a critique, the judgment of the beauties, faults and soundness of the work under consideration. Matthew Arnold has defined criticism as a disinterested endeavour to learn and propagate the best that is known and thought in the world. In philosophy, criticism is properly a matter of pure logic; in science, of inference from evidence.

Science is defined as specifically accumulated and accepted knowledge which has been systematised and formulated with reference to the discovery of general truths or the operation of general laws. Sir W. Hamilton, the Scottish philosopher, said: "Science is . . . a complement of cognitions, having in point of form, the character of logical perfection, and in point of matter, the character of real truth."

It is, of course, unnecessary to make a laboured defence of the need for criticism in scientific work: its application is an important stage in the search for truth, and the author sets the ball rolling with the criticism to which he subjects his own labours throughout the various stages of their progress; in paying him the compliment of giving attention to his work, others merely supply further impetus when they contribute their share.

The speaker must have an audience: unless it is able to speak as well as to hear he cannot gauge its reactions; in the absence of comment, which is criticism, the value of his work cannot attain full recognition.

The nature of criticism must, however, be considered: this is chiefly a matter of what is fair comment and what is unjustifiable. We ignore the type of criticism that consists merely in the utterance of platitudes and serves a social rather than a scientific purpose. Bitter attack, for the sake of attack, whether it involves personal malice or not cannot be allowed: in any case it frequently damages the case it supports.

Comment must be fair; it must not mis-state facts and must be free from malice.

If competent persons debate the speaker's

views and the views are of such a nature that they cannot be rejected, their acceptance by the public concerned follows as a matter of course.

The speaker welcomes criticism. It sheds more light on the whole work, exposes it to its public from new angles and more than commonly leads to expansion beyond the compass envisaged by its author.

In replying, the speaker gets an opportunity to polish aspects that on delivery appear possibly to be below the standard of excellence he has set for his work, to explain points on which the audience may have placed a wrong interpretation, or to amplify his previous statements.

The speaker finds laudatory criticism pleasant and in equity can have no grievance if honest criticism is adverse.

It is important that weaknesses in scientific reasoning be exposed so that others may not be misled. If premises are insufficiently sound to sustain attacks and are, consequently, indefensible, they are valueless.

This leads to the manner in which criticism should be accepted. Provided that it is honestly conceived, is not in a form that could be described as bad taste, is made openly by a competent person, and is based on sound, logical argument, it must be received without resentment. It should be countered in the same spirit: if the original thesis is good, its defence should not present difficulty. The thesis is not complete until it has been submitted to its public, withstood attacks and been defended.

Provided that the criticism is within the limitations discussed, resentment, however it is shown, is merely a confession of weakness or defeat.

The speaker is at no disadvantage: in his turn, in the course of his reply, he becomes the critic.

Criticism is thus a matter of fair give and take: each side must keep within the bounds of fair comment, neither overstating nor understating facts. In the process the aim of science is achieved—the search for truth, the whole truth and nothing but the truth.

COUNCIL OF AGRICULTURE FOR ENGLAND

The next meeting of the Council of Agriculture has been fixed to take place at the Middlesex Guildhall on Thursday, June 14th. The chairman for the next twelve months will be elected in place of Mr. George Dallas, the present chairman. Mr. Walter Elliot, the Minister of Agriculture, is expected to be present, and the agenda will include a report from the Standing Committee of the Council on the existing cattle and beef situation. Reports will also be presented on contagious abortion, warble fly, and sheep scab.

Clinical Reports

ROENTGEN-RAY TREATMENT OF ECZEMA

D. MOSSINSON, M.R.C.V.S.
Rehovoth, Palestine

Subject.—Male Airedale terrier, two-years old.

History.—This dog came for treatment for the first time on November 28th, 1932. At that time he suffered from circumscribed eczema on the back, having some half-a-dozen patches between the tail and the withers. These patches exhibited various stages of disease—some were red, others discharging and wet, and some covered with scabs. After clipping the hair and cleaning with peroxide, the condition quickly cleared by the application of odylen.

The dog was again admitted for treatment on January 22nd, 1933, this time suffering from eczema on the neck. The part affected was rather large—about the size of the palm of a hand—the hair was broken, the skin was in folds and discharged moisture.

I asked the owner to watch for worms, but I was informed that the dog had been dosed the previous year and no worms had been seen since. The dog's condition was excellent and he was receiving raw liver and orange juice in his diet.

Diagnosis.—Circumscribed eczema of the neck.

Treatment.—Since no internal cause suggested itself I treated the dog only locally. Odylen was applied for two days, but as it seemed to irritate the condition, it was discontinued and sulphur liniment was substituted. Since this liniment did not seem to effect much improvement, I began to look for some new treatment.

After speaking to a skin specialist I decided to try Roentgen-rays. Referring to Hutyra and Marek, I found on page 614, vol. III., some reference to such treatment, although it stated that it was found to be only partially successful. After consulting the X-ray specialist, it was decided to give the dog on three occasions a dose of 2H (100 k.v.) on the affected area, in the following constants—3 milliamperes, filter 3 aluminum at a distance of 30 cm. The dog received the treatment on January 27th, January 30th, February 3rd, 1933. In between the radiations sulphur liniment was applied. After the first electric treatment the part had a much healthier appearance, and the discharge was lessened considerably. After the second treatment the folds reduced in size and the moisture stopped—but the skin took on a slightly bluish colour. After the third application the folds disappeared but the bluish tint became more distinct (probably due to burning

of the skin). Two days later the case was discharged. I saw the dog a week later, when the area looked normal, the hair had begun to grow, but the bluish colour was still visible. Two weeks later the part was indistinguishable from the rest of the body.

Subsequent History.—The dog remained healthy until September, 1933, when he again developed a patch on the back. This patch quickly disappeared by the application of odylen. Single patches appeared during the whole month, but they were dispersed readily. In the middle of November, 1933, he again developed a few new patches, on the root of the tail, along the spine and on the fore-arm. I decided to give him a course of tonic injections consisting of arsenic, strychnine and ferri-carb., while the application of odylen was continued. After giving him a course of eight injections all the affected patches disappeared and the dog has remained healthy since.

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REMARKABLE CHANGE OF COLOUR OF A DOG

D. MOSSINSON, M.R.C.V.S.
Rehovoth, Palestine

Subject.—Half-bred spaniel bitch, 1½ year old, had her first litter at the end of September, 1932. The colour of this spaniel was rather peculiar, being liver with some white in it and large black spots.

When the puppies were about six weeks old the owner noticed a discharge from the vulva and brought the bitch for treatment. Metritis was diagnosed and the bitch was successfully treated during October and November, 1932.

On December 19th, 1932, I was called very urgently at night to see the bitch as she had had a profuse hæmorrhage. On arriving I heard that the bitch had lost about 1½ pints of blood which was passed *per vaginam*. While examining the bitch, she vomited about a pint of dark clotted blood and soon after had a motion which was again dark clotted blood. I inquired whether there had been an accident or whether the bitch had been kicked in the abdomen, but no such history was possible as the dog had not been out of its owner's sight since dinner-time. I examined the bitch carefully but no sore part could be found. I gave her an injection of calcium and put her into a warm comfortable bed. Next morning the bitch was very much alive, drank her warm milk with great relish. She made an uninterrupted recovery. To this day I cannot offer any explanation for this sudden hæmorrhage.

In March, 1933, much to my surprise, the bitch had a normal œstrum. In June, 1933, the bitch was again brought to me, and I did not recognise her; she was completely white—there was neither a black nor a liver spot to be seen on her. The hairs were hard and she had none of that fine silky spaniel hair. The owner told me that during the last three weeks the hair had been shedding in handsful and since then he had noticed that the dog was getting more and more white. The process started on the back, then affected the tail and the sides.

Diagnosis.—Unknown—and I could not find any reference to the condition in any book.

Treatment.—Since I knew the bitch and her history—and I also knew her to be healthy and in good condition—I suspected the ovaries to be the seat of the trouble. I put the bitch on ovo-thyroid tablets, and asked the owner to bring her back in 10 days. I then saw the bitch and was astonished to see again some black and liver patches on her. The owner told me that hair had again begun to fall out, but this time it was the white hair that fell. After a further 10 days the bitch had nearly regained her previous colour—only the root of the tail remained white. It took one month for these white hairs at the root of the tail to fall out. After six weeks the tablets were discontinued, and by this time the bitch had completely regained her previous normal colour. Since then the bitch has been in perfect health and condition.

* * * * *

Comment.—Thyroid gland is very closely connected with the pigmentation of the skin and hair, and especially so with the feathers of birds, which change colour fairly rapidly both through hypo- and hyper-thyroidism. It may be that the thyroid content of the tablets brought about this remarkable change—although I examined the thyroid glands at the time, and could not feel any departure from the normal.

SEEING IN THE DARK

"The problem of how nocturnal birds and animals see at night is believed to have been solved by Mr. F. L. Vanderplank, a student at Bristol University, after experimenting for two years," says the Bristol correspondent of *The Times*.

"He was invited recently to read a paper before the Zoological Society, and his experiments were submitted to technical referees. They have been accepted, and the findings are shortly to be published in the proceedings of the society.

"Mr. Vanderplank's theory is that all living animals give off long infra-red rays invisible to the human eye, but to which owls are sensitive, enabling them to pick out their prey in the dark and to pounce upon it. Meat and dead mice in a room from which light was excluded were untouched by an owl, but immediately a live mouse was liberated it was seized and devoured. The owl was unable to catch mice by daylight, but at night would often swoop from a tree 40 ft. high to catch a mouse, and would also devour dead meat illuminated by infra-red rays.

"Mr. Vanderplank believes that further experiments may enable instruments to be invented giving aeroplanes, ships, trains, and motor-cars a clear view ahead through mist or fog."

Abstracts

[Massive Cholesteatomata and Oedema of the Lateral Ventricles causing sudden death in a Horse. (Trans. title.) Cocu, J. (1933.) *Bull. de l'Acad. Vét. 6.* 9. 371-378.]

Cholesteatomata have been described in man as occurring in various organs, but in horses the usual sites are the meninges and more especially the choroid plexus. Opinions differ as to whether they always cause symptoms during life and cases are recorded in horses apparently normal while alive. The subject of the present case was a twenty-year-old Percheron stallion which died suddenly while feeding. The horse had been quite healthy except for a slight inco-ordination of the gait of the hind limbs noticed by the groom three weeks previously when the animal was led out to serve a mare. The head was carried low with a tendency to push against the wall. Fearing cerebral congestion, the horse was bled (ten litres) and mustard was applied; this was followed by rapid improvement and when seen later all symptoms had disappeared except for the carriage of the head and an appearance of drowsiness. Examined with a pendulum (pendule) according to the method of Martin, rotation was obtained in all parts of the body except the frontal region where oscillation was marked. The next day the horse was almost normal, but the reactions of the pendulum remained unchanged for another 24 hours when, recovery being complete, oscillation and direct rotation of the pendulum disappeared and were replaced by an inverse rotation. The horse returned to his normal routine and covered a mare a day up to the day of death.

At autopsy, during the opening of the skull the ventricles were accidentally opened and escape of a serous fluid occurred. Both tumours were situated in the choroid plexus; that of the right ventricle weighed 50 gms. and that of the left 38 gms. Both were oval and their colour was a greyish red; the larger measured 8 by 3·5 cm. and the smaller 6·5 by 2·5 cm. Sprinkled throughout their substance were clear and pearl-like granulations. Histological examination of stained sections showed "cholesterin capsules," which are described as ovoid inclusions of cholesterin surrounded by a connective tissue capsule. Small refractile inclusions were also observed in the sections and, while the nature of their contents remains undetermined, it is suggested that they may contain hæmosiderin.

J. S.

[Poll-evil in the Horse and Bacteriophage. The Reaction of Sensitisation. Quentin. (1934.) *Recueil de Méd. Vét. de L'Ecole d'Alfort. 110.* 1. pp. 27-30.]

All practitioners know the gravity of certain necrotic lesions in the horse (fistulous withers, poll-evil, cracked heels), and the difficulty of obtaining healing.

Using a stock bacteriophage and approved present-day methods, the author has increased the use of this phagotherapy to treat large infected wounds, sinuses and grave burns (especially those produced by sulphuric acid) with convincing results, following its successful use in the three typical necrotic lesions first mentioned.

The author fully describes uncomplicated cases treated and one in which the phenomena of sensitisation occurred, the latter being a case of fistulous withers in a horse previously treated by bacteriophage for a complicated case of poll-evil.

From his own observations in these cases, and following on the precautions necessary in the use of these agents as outlined by Dr. Raiga to la Société de Chirurgie de Paris on December 16th, 1932, he comes to the following conclusions:—

1. It appears prudent to avoid injecting bacteriophage into the blood stream, and to take care not to injure blood vessels when making deep injections into diseased tissues.

(2) It is necessary to be especially careful with recent hæmatomas in view of the ease of absorption through damaged blood vessels: do not massage after an injection; first wait until any ruptured vessels are healed before this treatment is started.

(3) It is best to use blunt needles or milk syphons to introduce bacteriophage to the depths of sinuses or necrotic areas. Do not use sharp steel needles which injure delicate inflammatory tissue, opening up the blood vessels and favouring the phenonema of sensitisation.

These conclusions confirm those given by Dr. Petit de la Villéon to la Société de Médicine de Paris on January 28th, 1932, concerning the treatment of anthrax and boils by bacteriophage.

C. V. W.

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[The Etiology of Bursati. Datta, S. C. A. (1933.) *Ind. J. Vet. Sci. Anim. Husbandry, 3,* 3, 217-236.]

Datta, in an extended account of the ætiology of bursati, in India, describes the disease, its pathological history, and investigations into the nature of the causal agent. He considers that it is not of mycotic origin, but that it is a

habronemic granuloma of equines due, most probably, to the Spirurid *Habronema muscæ*, and involving not only the skin but also internal organs such as the lung. Since the nematode larvæ exhibit considerable migratory powers, the disease becomes more than a mere local infection and, in the majority of cases studied, wound infections played an insignificant rôle while skin lesions were produced apparently through the general circulation.

J. N. O.

(Contributed by the Imperial Bureau of Agricultural Parasitology.)

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[The Effect of Pregnancy and Parturition on some Blood and Urinary Constituents in the Ewe. Josland, S. W. (1934.) *New Zealand Journ. Sci. and Tech. 15.* 5. 358-63. Tables 7. Refs. 23.]

In New Zealand certain diseases such as *ante-partum* paralysis and milk fever are definitely associated with pregnancy and parturition in the ewe. The investigation of the etiology of these diseases has been considerably assisted by the analysis of blood and urine where marked deviations from the normal have been observed. At the Wallaceville Laboratory it was considered desirable to investigate the changes that may occur in the composition of of the blood and urine during the progress of normal pregnancy in the ewe.

Owing to the paucity of available literature dealing with this subject in the ewe, that concerning the cow is reviewed, from which it is seen that most workers have found a slight decrease in blood calcium and inorganic phosphorus in the cow at calving.

Working with four healthy six-tooth ewes that had been served by the ram twelve weeks previously, and which were kept under observation for a period of ten weeks, no appreciable changes in either serum calcium or magnesium were observed during a period of two months prior to and six weeks after parturition. The values for inorganic phosphorus fell slightly at or near to parturition. The values for whole blood potassium fluctuated irregularly, so that no conclusion could be reached concerning this constituent. Parturition did not sensibly alter the concentration of sodium in whole blood, but the values obtained tended to be higher after parturition.

During the period of the experiment only occasionally could either albumen, sugar, or acetone be demonstrated in the urine. Ammonia and total nitrogen varied considerably. Total phosphorus was fairly constant throughout, and this contrasted with the increased values observed in *ante-partum* paralysis.

W. B.

[Two Cases of Diarrhœa, of an Enzootic Nature, in Lambs. (Trans. title.) Naudin. (1934.) *Recueil de Méd. Vét. de l'Ecole d'Alfort, 110.* 1. pp. 31 and 32.]

Remarkable disclosures concerning animal disease have, during the last thirty years, orientated the minds of pathologists towards a a microbial hypothesis as soon as it appeared to explain a large loss breaking out among a collection of animals.

For several years many researches have also, however, given parasitic diseases their just and large place in ovine pathology.

Numerous mineral deficiency diseases, and others due to excess minerals, have been described. Vegetable toxins have been implicated, especially in flocks upon rough pastures.

Naguère and, later, Carré re-emphasise that errors in hygiene, especially food hygiene, are often the cause of heavy lamb losses, and that there is a necessity to avoid being hypnotised in these cases by a bacteriological or parasitological examination, so that no omission of the examination of all conditions of management and feeding of the flock occurs. This latter necessity renders the collaboration of the flockmaster, veterinary practitioner and the laboratory indispensable.

The author explains two outbreaks of disease in lambs three to four weeks old, in which deaths occurred after several days of diarrhœa. This common symptom hid opposite causes of the trouble in each case.

1. Through poor pastures following a calamitous rainy season the lambs lacked the necessary quantity and quality of milk from ewes. They themselves, therefore, ate the poor pasture before being able to digest it.

Diagnosis.—Ewes had insufficient milk, hence ingestion by lambs of poor pasture, producing impaction of stomach and diarrhœa.

Treatment.—Rationed ewes with bran and oats.

2. A small farmer, with good rich pasture, gave a flock of ewes, in addition, good quality forage, oats and roots. The lambs, very fat, developed diarrhœa which was fatal in a few days. *Post-mortem* examination showed only an enormous impaction with hard indigestible casein curds in the stomach.

Diagnosis.—Ewes' milk too rich and hence clots too big for digestion and leading to intoxication.

Treatment.—Reduced ewes' food (less oats and roots), 5 gms. sod. sulphate in some of their milk per ewe daily, for a few days.

C. V. W.

[**The Study of the Virus of Variola of Goats. Vaccination of Sheep and Goats.** (Trans. title.) Kolayli, Mavridis and Ilhami. (1933.) *Recueil de Méd. Vét. de l'Ecole d'Alfort. 109.* 12. pp. 920-932.]

The authors carried out simultaneous experiments concerning variola in sheep and goats. As a result they found that the heterologous virus protected each species of animal, without any of the drawbacks previously noted (when a homologous virus was used for sheep).

In Turkey the disease in goat herds varies from a normal type, in which death rate is from 3 to 5 per cent., to a malignant type, in which 15 to 40 per cent. may die. The incubation period of natural infection varies from 15 to 20 days, and after artificial inoculation from 3 to 5 days.

First symptoms are elevated temperature (40 to 41°), not much inappetence, but the nose runs, eyes water and become bleary and all movements are sluggish. In three days' time, hard, red, hot lentil-sized eruptions show on the inside of the thighs, the belly, the fore legs and around the mouth, nose and eyes. These become generalised in a short while. Temperature, now between 39·5 and 40°, gradually falls and appetite is regained.

The belly and thigh eruptions change to pustules in two or three days. These, with a yellow summit, contain a lympho-purulent matter more plentiful than is found in sheep lesions, so that when squeezed at their base the contents spurt out. The pustules last six days, when a crust forms, which, when shed, leaves a distinct star-shaped cicatrix, the whole cycle taking 25 to 30 days.

In the severe form, generally seen in the female goat, there is also seen a viscid discharge from the nostrils and interference with breathing. Temperature remains between 40 and 41° all the time, the eyes becoming dull, sunken and pustular conjunctivitis marked. The udder is covered with pustules and certain portions become gangrenous and the milk bloody. Abortion occurs whatever the period of gestation, and recovery is rare.

The authors next explain in detail their experiments in sheep and goats which lead them to form the following conclusions:—

1. Natural transmission does not occur from variolous goats to sheep, and experimental inoculation only produces a benign pustule; the latter method immunises sheep against their specific pox without endangering a propagation of the disease among sheep as may occur if a pustular disease was set up by sheep variola virus.

2. If sheep virus is used for vaccination of goats at the time of an epidemic of goat variola, the bad result of generalisation (which often follows when a vaccine prepared from variolous goats is used) is thereby avoided. C. V. W.

Review

[**Meat Hygiene.** By Edelmann. 6th revised edition, by John R. Mohler, A.M., V.M.D., D.Sc., and Adolph Eichhorn, D.V.S. Pages 474. 162 illustrations and 5 coloured plates. Published by J. & A. Churchill, London. Price 28s.]

As we have not a copy of the previous edition of this book for comparison, we must assess the present volume on its own merits, and we may at once assert that it is a very welcome treatise on the subject of meat hygiene, brought up to date by the authors, the excellence of whose work in general is well known. The earlier chapters deal with the origin and source of meat foods and the morphology and chemistry of the principal tissues and organs of food animals. The age of food animals is considered and a comprehensive table of dentition is included dealing with horses, cattle, sheep and goats, and swine, with dogs and men for comparative purposes. The portion dealing with the slaughtering of animals is very clearly and simply stated, but no reference is made to the more recent use of the electrolethaler. There is a useful list of the various offals and the purposes for which they may be utilised. The nutritive value of the different foods receives serious consideration, and is assisted by tables of analysis and nitrogenous ratios, and meat, poultry and game, fish and food invertebrates. The importance of the examination of the lymphatics of the body is stressed, and a remarkable diagram after Boyer is included on page 69, showing the regional distribution and association of the various lymph glands. The comparative anatomy of the most important viscera receives attention along with the question of fraudulent substitutions of meat, and their recognition, such as the distinguishing features between sheep and goat, pig and dog, rabbit and cat, horse flesh and beef. There is also a useful chapter on the methods of conserving meat either by drying, by canning, by refrigerating and by chemical preservatives. Due attention is given to the details of *ante-mortem* and *post-mortem* examination, and to the disposal of condemned meat.

The chapter on abnormal conditions and diseases of food producing animals deals with such peculiarities as may be met with in physiological limits, the general pathological changes as related to meat inspection and *post-mortem* changes of meat. Another useful chapter is that on the examination and judging of prepared and preserved meat, chickens, game, fish, amphibia and crustaceans, while another chapter deals with the chemical analyses for various preservatives and adulterants in meat products.

As is to be expected, the regulations regarding meat are those applicable in the United States

N.V.M.A. Divisional Report

MIDLAND COUNTIES' VETERINARY MEDICAL ASSOCIATION*

ANNUAL MEETING AT BIRMINGHAM

The annual meeting of the Midland Counties' Veterinary Medical Association was held at the Grand Hotel, Birmingham, on Friday, March 16th, 1934. Mr. A. Mackenzie, the retiring president, occupied the Chair, and there were also present: Colonel Marriott, Messrs. S. M. Woodward, B. DeVine, H. W. Steele-Bodger, J. Cormack, H. W. Griffiths, W. F. Aston, A. A. Forsyth, G. F. Banham, J. Martin, O. V. Gunning, L. W. Heelis, T. H. Hobson, R. L. Phillips, M. L. Dartnall, W. L. Dwerryhouse, J. H. M. Hughes, W. E. Ison, H. Yeomans, W. C. Lowe, and the Honorary Secretary (Mr. H. W. Dawes).

The visitors present included Professor J. McCunn, of the Royal Veterinary College, London.

Nomination.—The President nominated Mr. Davidson, chief veterinary officer of the Staffordshire County Council, for membership of the Association. His name will be submitted for election at the next meeting.

Resignations.—The Honorary Secretary read letters from three members of the Association tendering their resignation: Mr. H. S. Caldwell, who has removed to Salisbury on receiving an appointment under the Wiltshire County Council; Mr. W. T. Olver, of Tamworth, and Mr. W. P. Blount, now of St. Leonards-on-Sea.

In the case of Mr. Blount, the Honorary Secretary said he hoped to be able to persuade him to withdraw his resignation, acceptance of which was deferred. The other two resignations were accepted with regret.

Treasurer's Illness.—Regret was expressed at the absence, through serious indisposition, of the honorary treasurer, Mr. W. H. Brooke, and the honorary secretary was instructed to send a message of sympathy from the meeting.

In the circumstances, it was resolved to leave the final audit of the accounts until the next meeting.

* Received for publication, May 7th.

Election of Officers.

The Council, which met earlier in the day, recommended that the officers of the Association for the ensuing year be appointed as follows: *President,* Mr. G. F. Banham; *Vice-Presidents,* Messrs. A. Mackenzie, H. W. Dawes and J. R. Barker; *Honorary Treasurer,* Mr. W. H. Brooke; *Honorary Secretary,* Mr. H. W. Dawes; *Auditors,* Messrs. W. F. Aston and S. M. Woodward; *Members of the Council,* Messrs. O. V. Gunning, R. H. H. Over, F. Chambers, H. W. Steele-Bodger, J. Cormack, H. Tudor Hughes, H. W. Griffiths, A. A. Forsyth and J. W. Conchie, together with the officers of the Association; *Representatives of this Association on the Council of the "National,"* Messrs. H. W. Griffiths, H. Tudor Hughes, R. H. H. Over, H. W. Steele-Bodger and the Honorary Secretary (*ex-officio*).

These appointments were unanimously confirmed.

Next Place of Meeting.—On the Council's recommendation, it was further agreed that the next quarterly meeting of the Association should be held at Stratford-on-Avon, during the last week in May, on a date to be fixed by the President-elect and the Honorary Secretary.

On this occasion a paper will be read by Mr. Noel Pillers, of Liverpool, on "Some Observations of the Clinical Aspect of Contagious Nasal Catarrh in Horses."

International Veterinary Congress.—A letter was read from the National Veterinary Medical Association inviting support for the fund towards defraying the expenses of British delegates to the International Veterinary Congress, to be held in New York.

Mr. Steele-Bodger drew attention to the omission from the list of chosen delegates of any general practitioner. By way of protest, he moved that the letter lie on the table.

Mr. Aston said he would second that, and for the same reason. The motion was carried.

The Royal Sanitary Institute.—The Honorary Secretary read another letter from the "National," asking to be notified by each Division as to the names of the delegates appointed to attend the annual congress of the Royal Sanitary Institute. The object, it was stated, was to enable the secretary of the "National" to forward a list of Divisional delegates to the recording secretary of the Veterinary Hygiene Section, so that he might select those specially qualified to speak on some particular aspect of the subjects for discussion.

This was agreed to, and upon the further suggestion of the Honorary Secretary, Mr. Brennan DeVine was invited to become the Association's official representative at the Congress.

An Invitation.—A letter was read from Mr. Miles, forwarding an invitation to the Association to pay a visit of inspection to the Research

of America, and while they are not of any great value to British meat inspectors, they are of very great interest, for purposes of comparison, with home methods.

Taken throughout, the work is a very excellent one, and should be on the bookshelf of every veterinary surgeon engaged on the work of meat inspection.

Station of Imperial Chemical Industries, who offered hospitality. The matter was referred to the next meeting.

Paper.—Professor J. McCunn, M.R.C.V.S., M.R.C.S., L.R.C.P., read a paper entitled "Observations on a few Equine and Canine Diseases."

Dr. McCunn's contribution was heard with much interest and evoked a useful discussion. [The paper and a report of the discussion will be found at the commencement of this issue.—Ed., *V.R.*]

Votes of Thanks.—Professor McCunn was cordially thanked from the chair, and was warmly applauded when he said he should be pleased to address the Midland Association again on some future occasion.

Mr. Aston proposed a vote of thanks to Mr. Mackenzie for his services as president of the Association during the past year. Mr. Mackenzie and Mr. Dawes were standing for the Council of the Royal College of Veterinary Surgeons, and they could count on the votes of every member of this Association, for as general practitioners they needed someone of their own class to represent their interests.

Mr. Steele-Bodger seconded in complimentary terms, and the resolution was carried by acclamation and suitably acknowledged.

At the close, the company had tea together.

H. W. Dawes, *Honorary Secretary.*

FREE STATE FARMER'S OPERATION ON COLT

Veterinary Council's Unsuccessful Prosecution

HIGH COURT APPEAL DISMISSED

The first case arising out of the Veterinary Surgeons Act, 1931, passed in the Irish Free State, came before Mr. Justice Hanna in the High Court, Dublin, on December 11th, on a case stated at the request of the Veterinary Council by Mr. Denis B. Sullivan, Acting District Justice at Coachford, Co. Cork. The Veterinary Council issued a summons against Mr. Peter John Good, a farmer of Aherlow, Aherla, Co. Cork, charging him that in May, 1933, at Ballyshoneen, he, not being at the time a registered veterinary surgeon, did unlawfully practice veterinary surgery by castrating a colt, the property of Cornelius Cronin of Ballyshoneen, Co. Cork, contrary to Section 46, Sub-section (1) of The Veterinary Surgeons Act, 1931; and that at the same time and place he, not being so registered, did unlawfully practice veterinary medicine by treating the colt contrary to the same Sub-section of the Act.

The District Justice dismissed the summons, and, on the application of the Veterinary Council, he stated a case for the opinion of the High Court, the Council being, he stated, dissatisfied with his determination as being erroneous in point of law.

The case stated set out:—

"The defendant is and has been for many years a farmer residing at Aherlow, Aherla, in the County of Cork. On the extensive farm which he owns, the defendant habitually keeps animals for profit. Amongst the other animals so kept by the defendant, the defendant habitually keeps colts for profit. The defendant is not, and has never been, a registered veterinary surgeon. The defendant does not hold himself out as a registered veterinary surgeon.

"On the 15th day of May, 1933, Cornelius Cronin of Ballyshoneen, Co. Cork, brought a colt of which he was the owner to the defendant who was then at Ballyshoneen, in order that the defendant might castrate the said colt. The defendant, at the request of the said Cornelius Cronin, did castrate the said colt.

"A number of these colts, about five or six in all, were about the same time and place also castrated by the defendant at the request of the owners of the animals.

"The defendant accepts payment for such services so rendered, but it did not appear in evidence whether or not he had received payment from Cornelius Cronin in respect of the castration of his colt.

"It was not on account of any emergency that the colt in question was so castrated. No injury or suffering would have been caused to the said colt by reason of delay in obtaining the services of a registered veterinary surgeon."

All these facts, the case stated set out, were proved or admitted. Having referred to the summons and to the nature of the charge alleged against the defendant, the case stated proceeded:—

"Several other similar summonses against the said defendant have been adjourned pending the decision of this case stated.

"The said summons was heard at the Coachford District Court on the 23rd day of August, 1933, and I dismissed the same on the merits, and allowed £1 1s. costs to the defendant, being of opinion that the operation performed by the defendant on the 15th day of May, 1933, was an operation, the performing of which was incidental to the usual care and management of the said colt."

Mr. Binchy, Senior Counsel, and Mr. Monks, B.L. (instructed by Mr. Arthur Cox and Mr. John Francis Foley) appeared for the complainants, the Veterinary Council; and Mr. Lavery, Senior Counsel, and Mr. McGilligan, B.L., T.D., (instructed by Mr. Jasper Travers Wolfe) for the defendant.

Mr. Lavery and Mr. Binchy stated cases and addressed the Court on behalf of their respective clients.

Mr. Justice Hanna said this was the first case under the new Veterinary Surgeons Act and raised a question on a very important Sub-section of Section 46 which had been obviously introduced with the object of enabling certain operations and the administering of certain medicines to be performed by persons such as farmers and breeders who were not registered veterinary surgeons; in particular, animals which were kept for profit. The evidence given on behalf of the Veterinary Council was limited and properly limited to proving the facts set out in so far as they disclosed that Mr. Good had castrated this particular colt and that there were several other colts on the premises awaiting castration at the time. It was quite clear that if the defendant wished to rely upon the exceptions or defence provided for him in Sub-section (3) he should have given

evidence to that effect; and that issue should have been determined as a matter of fact by the District Justice. The onus lay upon the defendant of giving evidence to satisfy the District Justice as a matter of fact that he was either a farmer or other person who habitually kept animals for profit and that when he performed this operation which was an operation incidental to the usual care and management of animals of that class, he did not hold himself out as a registered veterinary surgeon, but as a person skilled who claimed the right to perform this operation. There was no evidence set out in the case stated on this question of defence. In one paragraph the District Justice set out all the facts that were proved or admitted; but he did not include in this paragraph any finding that this was an operation incidental to the usual care and management of the animal; but in his judgment he said that he was of opinion that the operation did fall within the exception mentioned in Sub-section (3) of Section 46. "I cannot," said Mr. Justice Hanna, "accept that as a finding of fact that would enable me to determine this issue one way or the other; and accordingly I propose to remit this case to the District Justice." On the question whether the operation was incidental to the usual care and management of an animal of this class, he (Mr. Justice Hanna) was of opinion that the word "incidental" in the Sub-section meant something in contrast to the word "essential," something of a casual character, that it happened sometimes, perhaps always, but was not absolutely necessary or essential. The words "usual care and management" were open to some explanation. In considering these topics the District Justice would bear in mind the class of the animal operated upon. There was no evidence whether these animals were colts of racing stock or ordinary farm cart horses. He thought the District Justice would require to have evidence taken to guide him in answering a further question he would put to him; whether as a matter of fact the operation of castration was incidental to the usual care and management of animals of this class. His order would be to remit the case to the District Justice to take evidence and report the findings of fact upon the questions that were left to him. The case could then be placed on the High Court list for further argument.

Mr. Binchy asked whether the Veterinary Council would be at liberty to call such evidence as they might be advised.

Mr. Justice Hanna: "Both parties to be at liberty to call such evidence as they may be advised."

. . . . . .

The case came before the High Court, Dublin, for the second time, on May 3rd (the Court being constituted by Mr. Justice Sullivan (President of the High Court), Mr. Justice Hanna, and Mr. Justice O'Byrne on an additional case stated by the Acting District Justice.

Mr. Binchy read the case stated by the Acting District Justice and the supplementary case stated as a result of the order made by Mr. Justice Hanna.

The supplementary case stated set out that the colt owned by Mr. Cornelius Cronin was an ordinary farm colt. It was most suitable for doing the ordinary work on a farm. It was not a suitable animal for breeding purposes, and it would not have made a suitable harness animal or hunter. The age of the colt in May, 1933, was one year, and its value at that time was £2.

It was in accordance with the ordinary practice and custom of farmers in the neighbourhood of the defendant and Mr. Cronin that colts of this description should be castrated in order that they might be made more docile and useful and rendered less dangerous to man and to other animals. Mr. Cronin's colt would have been difficult to sell if it had not been operated upon. The operation of castration was usually performed on colts when they were one year old, but might be performed till they were about two years. It was an operation necessitating considerable skill or knowledge. With thoroughbred colts it was a growing though not a universal practice to administer an anæsthetic to the animal before the operation. The operation must be skilfully done to prevent hæmorrhage, and after the operation strict antiseptic conditions were necessary. The operation took five minutes to perform. The operation if not done skilfully was a dangerous operation and likely to cause the death of the animal. It should be performed by a skilled person. The defendant's father was a qualified veterinary surgeon. The defendant assisted his father in his business and in that way obtained his early training and experience, castrating animals under his father's supervision. The defendant so assisted his father until his father died and thereafter for a period of upwards of 30 years the defendant continued to operate on the animals of the neighbouring farmers and castrated successfully a very large number of colts. When the defendant was assisting his father, between 400 and 500 colts would be operated upon by them in a single year. Partly owing to the fact that the breeding of colts in the district had been largely discontinued and partly owing to the fact that it is now much easier to obtain the services of a qualified veterinary surgeon in the district, the number of operations of this kind performed by the defendant had fallen and in the past year would be between 20 and 30. The defendant had the necessary skill and knowledge to perform the operation of castration. No colt that the defendant had operated upon had died as a consequence within the past 20 years. It was quite usual when pigs and calves were to be castrated for the owners of the animals to operate or to call in a neighbouring farmer to do the operation on such animals. It was not the custom or practice of such farmers to castrate colts, which are more valuable animals and more liable to complications. When this operation had to be performed on a colt it was done either by a qualified veterinary surgeon or by some person such as the defendant having special knowledge and skill. On the occasions when Mr. Cronin had colts to be castrated he either obtained the services of a qualified veterinary surgeon or of the defendant, more often the former.

"I find as a fact," the Acting District Justice concluded, "that the operation of castration performed by the defendant on the colt of Mr. Cornelius Cronin on the 15th day of May, 1933, was an operation the performance of which was incidental to the normal care and management of the said colt. I further find that as a matter of fact and practice the operation of castration is incidental to the normal care and management of animals of the class concerned."

Mr. Binchy referred to Section 46 of the Veterinary Surgeons Act, 1931. Sub-section (1) provided: "It shall not be lawful for any person to practice or to represent or hold himself out, whether directly or by implication, as practising or being prepared to practice veterinary surgery or veterinary medicine, unless he is for the time being a registered veterinary surgeon."

Sub-section (3) provided: "Nothing in this section shall render it unlawful for any farmer or other person who habitually keeps animals for profit, or the servant of any such person, to perform on or administer to an animal of any class (whether owned or not owned by such person) any operation or medicine, the performing or administration of which is incidental to the usual care and management of animals of that class, provided that such person or servant does not hold himself out as a registered veterinary surgeon."

Mr. Binchy submitted that the operation performed by the defendant in this case did not come within the exceptions mentioned in Sub-section (3) and that the Court ought to direct the Acting District Justice to convict.

The Court without calling on Counsel for the defendant delivered judgment.

Mr. Justice Sullivan said he was of opinion that the question asked by the District Justice must be answered in the affirmative, namely, that he was right in dismissing the summons against the defendant. The only two questions which the District Justice had to decide related to the exemptions in Section 46, Sub-section (3) of the Act of 1931. First, was the person who performed the operation in question a farmer or a person who habitually keeps animals for profit? and second, was the operation which was performed one the performance of which is incidental to the usual care and management of animals of that class? The District Justice had, in the evidence before him, answered both of those questions in the affirmative and it followed from that, that he was right in dismissing the summons.

Mr. Justice Hanna and Mr. Justice O'Byrne concurred.

The Court allowed the costs of the present hearing and of that of last December to the defendant.

H.M. STATIONERY OFFICE PUBLICATIONS

The undermentioned have been published recently. Copies can be purchased through any bookseller, or directly from H.M. Stationery Office, at the following addresses: London: Adastral House, Kingsway, W.C.2, and 28, Abingdon Street, S.W.1; Cardiff: 1, St. Andrew's Crescent; Manchester: York Street; Edinburgh: 120, George Street.

	Price Net. s.	d.	*Post Free.* s.	d.
Command Papers:—				
Agriculture for Scotland. Twenty-Second Report of the Department for the year ended December 31st, 1933	1	6	1	7
Privy Council:—				
Poisons and Pharmacy Act, as amended up to April 11th, 1934 (70-9999)	0	1	0	1½

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Dr. Frank Coke, writing in the *British Medical Journal* (May 9th, 1934, 872), on the subject of bee venom for rheumatism, states that the stings of bees vary enormously and are most potent at the end of summer when the honey is being guarded for the winter. During the winter the potency sinks very rapidly. Dr. Coke states that he prepares his own bee venom for use in rheumatic patients.

Notes and News

The Editor will be glad to receive items of professional interest for inclusion in these columns.

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DIARY OF EVENTS

June 4th.—Meeting of the Editorial Committee, N.V.M.A., at 2, Verulam Buildings, Gray's Inn, W.C.1, at 4.30 p.m.

June 7th.—**Special meeting of Council, R.C.V.S, 2 p.m.**

June 7th.—**Annual General Meeting R.C.V.S., 2.15 p.m.**

June 7th.—Annual General Meeting, Victoria Veterinary Benevolent Fund, to follow R.C.V.S. Annual Meeting.

June 7th.—**Special Meeting of Council, N.V.M.A., Conway Hall, W.C.1, 3.30 p.m.**

June 7th.—Meeting of the Central Division, N.V.M.A., at the Conway Hall, Red Lion Square, W.C.1.

June 7th-8th.—D.V.S.M. Written Examination.

June 8th.—Meeting of the South Wales Veterinary Association, at Carmarthen.

June 11th.—D.V.S.M. Oral Examination begins.

June 15th.—Annual Dinner, Officers R.A.V.C., Hotel Victoria.

June 16th.—Meeting of the North of England Division, N.V.M.A., at Newcastle-on-Tyne.

June 27th.—Annual Summer Meeting of the Lancashire Division, N.V.M.A., at Southport.

July 2nd.—Membership Examination Fees due.

July 4th.—R.C.V.S. Committee Meetings.

July 5th.—R.C.V.S. Committee Meetings.

July 6th.—R.C.V.S. Committee and **Council** Meetings.

July 9th.—Membership Written Examination.

July 11th.—Membership Oral Examinations begin.

July 30th-Aug. 3rd, 1934.—National Veterinary Medical Association Congress, Edinburgh.

Aug. 13th-18th, 1934.—Twelfth International Veterinary Congress, New York.

Aug. 24th.—Entries due for Jubilee Memorial Bursary Examination.

Sept. 24th-25th.—Examination for award of Jubilee Memorial Bursary.

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CATTLE DISEASES REPORT

Recommendations of Economic Advisory Council's Committee

In an early issue we shall give an extended review of the important report published on Monday last (Cmd. 4591, price 2s. 6d. net) of the Economic Advisory Council's Committee on Cattle Diseases, appointed by the Prime Minister in November, 1932, "to consider what practical

measures can be taken to secure a reduction of disease among milch cattle in this country, and to report upon any changes desirable in the existing administrative practice, and, in particular, upon the value and practicability of methods for reducing the incidence of bovine tuberculosis and improving the milk supply."

In the meantime, we print recommendations made by the Committee concerning measures to be taken for the eradication of bovine tuberculosis, and the provision of new regulations for the grading of milk and pasteurisation.

The Committee in their recommendations state that routine veterinary inspection should be made obligatory for all local authorities. The veterinary service should be expanded under the immediate control of local authorities, but with precautions designed to secure to the departments of agriculture the power to co-ordinate the activities of local authorities. The veterinary officers of local authorities should also be responsible for duties in connection with eradication. The testing of herds with tuberculin for the purposes of the milk designations order should be transferred to the expanded veterinary service. A full veterinary service with the proposed duties cannot be established immediately, as it would require about 300 veterinary surgeons. Steps should be taken to provide these.

Eradication of Tuberculosis

The scheme for the eradication of bovine tuberculosis, it is stated, will require the active supervision of the Ministry of Agriculture (in Scotland the Department of Agriculture). It should provide for:—

(1) The institution of a list of tuberculosis-free herds (accepted herds), tested with tuberculin from time to time under official supervision, and declared to be free from bovine tuberculosis.

(2) The provision of free advice and free tuberculin-testing for owners of herds who agree to make *bona fide* efforts to free their herds from tuberculosis, or who have established free herds.

(3) Financial help, where necessary, by way of loans, or the guarantee of loans, to approved owners for the purpose of undertaking expenditure required by the veterinary inspector as necessary to eradication.

(4) The securing to owners of disease-free herds of a higher price for their milk than that obtained by other owners.

(5) The taking of administrative measures designed to secure that tuberculosis-free cattle from accepted herds should be moved about the country and exposed for sale without running the risk of being brought in contact with other cattle.

(6) The adjustment of regulations governing the production of graded milks and the grades of milk officially approved, and the making of regulations relative to the compulsory pasteurisation of milk with a view to increasing the incentive to farmers to eradicate tuberculosis from their herds.

All milk sold for consumption in liquid form should be required to be sold under an official designation. No liquid milk should be sold that does not attain a fixed standard of cleanliness, or pre-pasteurisation standard, at the farm. This standard should approximate to that at present required for Grade A milk. In addition, all milk should conform to the definitions of one of the following designations:—

(1) Certified milk—which has not undergone any process of heat-treatment and is derived from tubercle-free herds. (This milk should not be required to be bottled on the farm.)

(2) Pasteurised milk—which has undergone, once only, a process of approved heat-treatment, and has undergone no other process of heat-treatment. Pasteurisation should be permitted only in a plant licensed for the purpose.

(3) Sterilised milk—which has been raised to the boiling-point or higher in a plant licensed for the purpose, and which has undergone no other process of heat-treatment.

(4) Milk (uncertified)—which has undergone no form of heat-treatment and is not derived from tuberculosis-free herds, but which attains a certain hygienic standard.

The Council of any county borough, municipal borough, large burgh, or urban district in an area, the population of which exceeds 100,000, and the London County Council should have the right to prohibit the sale of milk (uncertified) as defined above after a date which shall not be earlier than five years after the initiation of the scheme of eradication, provided that it has given not less than two years' notice of its intention to do so.

Cost of the Scheme

After making recommendations in regard to other diseases the Committee propose that the burden of the new expenditure recommended should be divided on the following basis:—

(*a*) Farming community—the costs incurred in eradication, with the exception of the costs of tuberculin testing and general veterinary advice. The State or the local authority, however, would, in cases of necessity, make advances to meet this expenditure, repayable over a reasonable period.

(*b*) Milk industry as a whole—for finding the sum required to pay the bonus on milk produced in accepted herds.

(*c*) The costs of the increased veterinary services and laboratory work and of free tuberculin testing would be met from national or local funds.

A reservation by Sir Merrik Burrell, an addendum and reservation by Sir Charles Harris, and an addendum by Sir John Moore are attached to the report.

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PERSONAL

High French Honour for Dr. Fred Bullock

Recognition of Scholastic Historical Investigation.

We learn with much gratification that, by a Decree of the President of the French Republic, Dr. Fred Bullock has been awarded the coveted distinction of Chevalier of the Legion of Honour. This is in recognition of the work he has done in connection with the history of the foundation of the French Colony of the Ivory Coast. As long ago as 1913 Dr. Bullock published a little work in French in which he confuted the generally

accepted account of the foundation of the Colony and showed by the quotation of original documents including treaties passed with the native Kings, that the colony was secured to the suzerainty of France by the explorations of Marcel Treich Laplène, and not of Capitaine Binger as all the history books wrongly stated. That such an investigation could have been undertaken by an Englishman is creditable to English scholarship and to the English love for justice. Dr. Bullock's work had to lie dormant during the period of the War and it was only in recent years that he was able to return to the charge.

In an article contributed to the *Ninteenth Century* in July, 1929, he suggested that as the capital of the Ivory Coast was being transferred from Bingerville to Abidjan the moment was opportune to perpetuate the name of Treich Laplène by renaming the capital Treichville. This suggestion has not been found feasible, but it is probable that the name will be given to an important suburb of the capital.

The Members of the College of which Dr. Bullock is Registrar will join with us in congratulating him on the well-merited distinction which has been conferred on him.

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Birth.—Johnston.—On May 6th, at "Windrush," Houndean Rise, Lewes, Sussex, to Violet, wife of Donald Johnston, a son, David Edward.

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Appointment.—In connection with its campaign for the control of sheep scab, Westmorland County Agricultural Committee has selected Mr. J. Brennan, M.R.C.V.S., Redmayne House, Penrith, for appointment as temporary (whole-time) veterinary officer for the county.

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ROYAL INSTITUTE OF PUBLIC HEALTH

In our last issue we recorded certain portions of the proceedings of the veterinary medicine and agriculture section of the Norwich meeting of the Royal Institute of Public Health. It should be added that the section was also addressed by Mr. T. MacGregor, assistant veterinary officer to the West Riding County Council who, in a paper, advocated the unification of control of animal diseases and of the milk and meat supply, urging the need for a State veterinary service.

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VETERINARY INSPECTION IN DORSETSHIRE

At a recent meeting of the Dorsetshire County Council the recommendation of the Agricultural Committee that two full-time veterinary officers be appointed, was adopted.

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WASTAGE IN DAIRY HERDS

The Scottish Farmer reports that at the recently held World's Dairy Congress Dr. H. G. Sanders, of the School of Agriculture, Cambridge, contributed a valuable paper on the results of an investigation into the wastage of dairy herds, carried out over a period of three years and involving some five hundred herds with a total of twelve hundred cows.

The largest cause of wastage Dr. Sanders found to be sterility and the next in degree poor milkers. These two together accounted for more than one-half of the total wasted. High-yielding herds naturally suffered a greater loss through sterility than low yielding herds, and likewise showed a higher number of udder infections. Wastage was also greater in herds where the stock was bought in than where the stock was home-bred. The difference was marked as regards sterility and udder infection.

Dr. Sanders found the causes of wastage to be as follows:—

Cause of Death or Disposal.	Annual Wastage as % of Cows in Herds.	Percentage of total Wastage.
Sterility	5·75	24·66
Abortion	0·76	3·37
Advanced tuberculosis	1·13	5·04
Advanced Johne's disease ...	0·48	2·12
Wasters	0·63	2·81
Garget	0·23	1·03
Other udder troubles	0·94	4·20
Died	1·9	4·48
Accident	0·28	1·23
Miscellaneous	0·90	4·01
Total of disease	12·09	54·35
Failed tuberculin test	0·62	2·77
Low milk yield	4·12	18·38
Old age	0·97	4·32
Trade	4·52	20·18
Total disposals	22·42	100·00

The large percentage of loss by sterility rather surprises Scotsmen, who for the past ten years or so have adopted the American method of massaging the ovaries. In the case of cows under heading "died" the cause of death was unknown, but most of these occurred soon after calving.

The large percentage rejected for low milk yield may also indicate that a number of the herds were newly started and buying in cows from the market. The annual average percentage of wastage was 28·11, from which Dr. Sanders calculates the average herd life to be 42·7 months.

Correspondence

Letters to the Editor should reach the Office not later than by the first post on Tuesday morning for insertion in following Saturday's issue.

All correspondence must bear the name and address of the contributor for publication.

The Editor does not hold himself responsible for the opinions of his correspondents.

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HODGKIN'S DISEASE IN THE DOG

To the Editor of The Veterinary Record

Sir,—As you may be aware, the condition of human Hodgkin's disease has been the subject of extensive investigation, and in view of the existence of a somewhat similar condition in the dog, I should be greatly obliged if any of your readers encountering suspected cases of canine Hodgkin's disease would be kind enough to communicate with me.

Thanking you for the courtesy of extending to me the use of your columns.

I am,

Yours truly,

C. E. van E. Rooyen, M.B.

Bacteriology Department,
University New Buildings,
Teviot Place, Edinburgh, 1.
May 24th, 1934.